ABSTRACT OF A

Presidential Address

ON

THE GROWTH OF OTOLOGICAL SCIENCE.

Delivered at the Sixth International Congress, London, on August 8th, 1899,

BY URBAN PRITCHARD, M.D. EDIN., F.R.C.S. ENG.,

PROFESSOR OF AURAL SURGERY IN KING'S COLLEGE.

[AFTER a few introductory remarks Dr. Urban Pritchard said:—]

In bidding you welcome I have used the word "foreign" to our guests, but I do not like that designation in connexion with our Congress. For Science acknowledges no differences of nationality; she is herself all in all and faithfulness to her is the sole condition of citizenship in her kingdom. Therefore let us regard ourselves not as under our national flags but as assembled in common brotherhood, marching together under the banner of Otology and forming one part of that army, commanded by science, which is engaged in overthrowing the foes of humanity, those foes which have ignorance, vice, and prejudice for their leaders. Personally I feel a thrill of pleasure in seeing so many valued friends assembled again for conference, and of these may I be permitted to mention the names of Professor Politzer, Professor Guye, Professor Lucae, Dr. Arthur Hartmann, Professor Knapp, Dr. Ménière, and our last President, Professor Grazzi. But it is a real grief to miss some old familiar faces. The genial President at Basle, Burkhardt-Merian, dear old Sapolini of Milan, Moos of Heidelberg, and Delstanche (*père*) of Brussels,—these are honoured names which will long be remembered in the annals of otology, though they themselves have passed "behind the veil." Again, since our meeting in Florence our branch of medical science has lost another faithful servant—I allude to Dr. Meyer of Copenhagen, whose name in connexion with the discovery of post-nasal adenoids is so justly renowned. Lastly, among other names that must occur to each one of us I will only refer to those of Professor Colladon of Geneva and Mr. Hewetson of Leeds, who were both to have taken an active part in our proceedings this week. We deeply regret also to note the absence from unavoidable circumstances of several friends whom we should gladly have welcomed among us to-day and I am especially grieved that ill health has prevented Dr. Charles Delstanche, our hospitable President at Brussels, from being at his accustomed place on this occasion. (I believe that it is the first time that our Otological Congress has not had the support of his energetic and cheery presence.) Now, friends, it seems to me that at the opening of our Congress it is well that we should recall briefly the story of the birth and growth of otological science and with your permission I will say a few words on this subject now, dwelling more particularly on the advances made in it during the last 30 years.

Although Toynbee is generally acknowledged to be the father of *modern* otology, for the date of its birth we must go back some 3400 years to the then flourishing country of Egypt. For Professor Roosa, in his excellent treatise, refers to a certain ancient papyrus (called, after its discoverer, the Papyrus Ebers) on which is written a monograph on "Medicines for Ears Hard of Hearing" and "For Ears from which there is a Putrid Discharge." And here in our museum may be seen a confirmation of the fact that ear troubles not only existed in those days but that they could be cured, for we have the good fortune to possess a curious old Egyptian relic, consisting of a wooden tablet on which is portrayed in bas-relief two effigies of the sacred bull and two auricles; this was undoubtedly a votive offering to the god Hathor from some "grateful patient." In spite of its early birth, however, otology, except perhaps with regard to its anatomy and physiology, did not make itself of great importance until the second half of the present century. It is true that here and there a surgeon might have been found who had turned his attention to some extent to this subject; and, indeed, our Royal Ear Hospital in Dean-street, Soho, which is acknowledged to have been the first successful aural clinique in Europe—and, I believe, in the world—was established in 1816. But, speaking generally, we may safely assert that aural surgery continued to be more or less in the stage of infancy until between 1840 and 1860, when the study was vigorously taken up by Sir William Wilde and Toynbee, who thus gave a fresh impetus to the study of the pathology and treatment of diseases of the ear. Even then its importance was by no means generally recognised; indeed, only 30 years ago it was a favourite saying of more that one celebrated surgeon that "ear diseases may be divided into two classes—those which can be cured by any general practitioner and those which, being incurable, may be relegated to the tender mercies of the ear specialist."

[Dr. Urban Pritchard, after referring to the fact that aural surgery was practically left in the hands of quacks until some 30 years ago, although of course there were notable exceptions, continued:—]

Let me now pass in brief review the progress of the last 30 years. So far as the anatomy and physiology of the auditory apparatus are concerned comparatively little has been added to the store of knowledge already gained, although a more intimate study of its parts has made that knowledge more complete and precise. In pathology, as may be expected, there has been considerable advance. In disease of the meatus, although aspergillus was discovered before this period by Meyer, Schwartze, and Wreden, yet it was not elaborated with any fulness until later. Also, the nature and classification of exostoses have been worked out within this period. Our knowledge of the changes in chronic middle-ear catarrh and in sclerosis has considerably advanced, although much here yet remains to be done. The effect of pathological conditions of the nose and naso-pharynx upon the auditory apparatus, adenoid vegetations more especially, has practically been discovered. The world has yet to learn what it owes to Meyer. In chronic suppurative catarrh, disease of the ossicles, the implication of the attic, the antrum, and the mastoid cells have been worked out, also the intercranial complications which sometimes follow. The nature of the granulations and polypi are now better understood and although Toynbee had already called our attention to cholesteatoma its pathological importance in connexion with mastoid disease was not fully realised until quite lately. In the pathology of labyrinthine disease there has not, perhaps, been so much advance, but Ménière's disease is now better understood and Politzer has made known to us a disease of the bony capsule. Finally, the pathology of congenital syphilis affecting the internal ear has been partially worked out. Our means of diagnosis have been considerably improved. The diagnosis between affections of the conducting apparatus and the auditory nerve, which formerly was often confused, is now much more easily made out; this is chiefly due to the study of the tuning fork. Methods of illumination have very greatly improved, to the immense advantage of the surgeon. Bacteriology, again, has done much and in all probability will do even more in the future to help us in our diagnosis. Unfortunately the essential apparatus is enclosed in such dense bone that the Roentgen rays have been of but little assistance.

In treatment there have been immense strides. Even in chronic middle-ear catarrh and in sclerosis—those diseases which hitherto have baffled our most strenuous efforts—a distinct advance has been made indirectly, especially in prophylaxis, by treatment of the nose and naso-pharynx. In suppurative disease there has been very great improvement in treatment. By means of boric acid, alcohol, and other suitable antiseptics simple otorrhœa has become much more manageable and a far larger proportion of such cases are now healed even without operation. In the case of its complications—caries, granulations, and polypi—the advance made is most striking and in consequence the large protruding polypus is now rarely seen, and no aural surgeon at the present time would be able to show so large a collection of these as Dr. Warden of Birmingham was in the habit of displaying some 25 or 30 years ago. Curetting of carious spots and the removal of ossicles, so important in the treatment of many cases, has only recently been introduced. This brings us to the wonderful stride made in the treatment of antrum and mastoid disease, for which we have chiefly to thank Professor Schwartze and Professor Stacke, although many others have contributed to the advancement. How much agony has been relieved and how many lives

have been saved by these operations. And, gentlemen, this advance of surgery has carried us still further, for by the joining hands of general surgery and otology intercranial suppuration has been robbed of many of its victims. But how and why is this? How is it that formerly our surgeons were unable to cope with these intercranial conditions? How is it that now we are able to operate on the tympanum, attic, and mastoid practically with impunity? This is due to the adoption of antiseptic surgery. May I beg your indulgence for proudly claiming to be pupil, colleague, and brother professor of him whom I regard as the greatest man living to-day—Lord Lister. Were it not that you would exclaim at my inconsistency I should be tempted to add "compatriot" also. But yes, gentlemen, I will add the word. Not, however, in the sense in which I was just about to use it, that of English nationality, but with reference to that ideal country to which I alluded at the beginning of my speech and of which we otologists are all naturalised subjects. Here, on the common ground of our chosen land, the land of science, we may all proudly claim Lord Lister as our compatriot, all rejoice to serve under such a leader in the battle against disease and death. The world does not as yet understand the full benefits which he has conferred upon mankind, but we naturally, being his compatriots, have a better opportunity for doing so, and I can only add my earnest conviction that it is by faithfully following the counsels of our superior officer that our advancing column can best secure future victories. Such, ladies and gentlemen, is the brief, and therefore necessarily inadequate, record of the progress of otology which I desired to lay before you. We have seen that this nineteenth century which has brought to the world so many wonderful blessings in other directions has not been unmindful of our branch of medical science. For whereas at the commencement of the century the ear was regarded almost as a *terra incognita*, scarcely worth consideration except as the seat of one affection only—that which was then generally known as "a deafness"—now, at its close, this organ is fully-explored ground and has been proved well worth the exploration. Otology has been raised from the rank of pseudo-quackery to an honourable position in scientific surgery and its importance and bearing upon the body as a whole is now fully recognised. But while we rejoice in the progress made in the past we must remember that much still remains to be done. For instance, we have yet to clear away that opprobrium of aural surgery—namely, the chronic non-suppurative disease of the middle-ear. Shall we in the near future be enabled to cope successfully with this hitherto invincible foe? Judging from the advance made in other directions I am bold enough and sanguine enough to think that we shall, and assuredly when that help comes we shall all unite in blessing its victor. Now it is the province of our Otological Congresses to take this and similar problems into consideration. But the real value of these gatherings is not to be measured merely by papers and discussions. This is one of their uses, it is true, for interchange of ideas is always good; still, the chief value of thus meeting together with others who are all interested in one common subject is the kindling of enthusiasm which is thus engendered—an enthusiasm which should serve to stimulate older and younger members alike to renewed efforts in the paths both of research and of practical treatment. Therefore, in conclusion, I desire most heartily to wish that this, our sixth congress, may be successful in all these directions.

BRISTOL JUBILEE CONVALESCENT HOME.—The Queen has fixed Nov. 17th or 18th for her visit to Bristol in order to open the Jubilee Convalescent Home.

WIGAN MEDICAL SOCIETY.—A special meeting of the above society was held on August 10th. Mr. Mitchell Roocroft, who was voted to the chair, explained that the object of the meeting was to present Mr. Luther Cooke, the President of the society, with a silver "cradle" on account of the birth of a daughter during his year of office. He called on Mr. C. M. Brady to make the presentation. Mr. Brady, in a few well-chosen remarks asked Mr. Cooke's acceptance of a solid silver afternoon tea service in honour of the occasion mentioned by the chairman. Mr. Cooke thanked the members of the society for their kind appreciation of his services and for the presentation which they had made to him. The rest of the evening was of a social character.

Presidential Address
ON
THE APPLICATION OF THE ROENTGEN RAYS TO MEDICINE AND SURGERY.

Delivered before the Roentgen Society on July 4th, 1899,

BY C. MANSELL MOULLIN, M.D. OXON., F.R.C.S. ENG.,
PRESIDENT OF THE ROENTGEN SOCIETY; SURGEON AND LECTURER ON SURGERY AT THE LONDON HOSPITAL.

LADIES AND GENTLEMEN,—Last October, when you did me the honour to elect me President of the Roentgen Society, I was informed by the Council that among the other duties of the office was the delivery of a presidential address. Through their kindness and with your consent I was enabled to postpone this until the end of my year of office and, being human, the responsibility when compared with that of other duties attached to so distinguished a post at that distance of time did not weigh very heavily upon my shoulders. There were other and more pressing needs in connexion with the work of the society; this lay in the distant future, so far off that it did not appear to be a very serious undertaking. But now the future has become the present and the time has come when the various threads must be gathered together and some account be given of the progress which the Roentgen rays have made in the past year and of the vast and ever-increasing importance to which they have attained. In one thing I am bound to confess that I am exceptionally fortunate. So many presidents of other societies are compelled to rack their brains to find something fresh to say—it has all been said so often before and sometimes so much better before. My subject is still in all its freshness and vigour of its youth. It is not in the least hackneyed or worn. The wonder with which it was received at first has not abated in the least. And if I have few examples to guide me I have equally few precedents to hamper me in selecting the line which, with your permission, I should like to follow.

My distinguished predecessor, Professor Sylvanus Thompson, in his inaugural address delivered at the first meeting of our society, drew with a master's hand a picture of the rise and origin of the Roentgen rays and showed what they were, how they were produced, and what relation they bore to the other ether waves. I am not so rash as to court comparison. Fortunately for me our society embraces so many different interests and extends in so many different directions that it is not difficult to find some portion of the subject of its work which has scarcely been touched upon as yet and I am sure you will forgive me for choosing that which appeals to me as a surgeon the most strongly—the practical application of the Roentgen rays to the needs of medicine and surgery and the immense advances which have been made in this direction in the course of the past year.

I feel that it is my duty first of all to clear the Roentgen rays of a stigma which has been thrown upon them and which has in some measure tended to limit their sphere of usefulness. So far as regards the injuries, often of a very serious character, which have followed prolonged exposure to the discharge from a focus tube the events and discussions of the past year go a long way towards proving that the Roentgen rays stand blameless. Whatever the cause the effect is not to be laid to their charge. The ether waves, which we recognise as light and heat, are acknowledged by all to have great influence over the changes which take place in living tissues. The ultra violet rays, it is known, are especially potent, and the discharge from a focus tube may be so powerful as to cause the death of the structures which are exposed to it. But not only is there no proof that the ether waves which possess this power are the same as those which can be made visible to us as Roentgen rays, but there is every reason to believe that they are of quite a different order. Screens which cut off one have no influence upon the other and consequences which follow too close exposure may be prevented, or at least very greatly minimised, by the interposition of substances perfectly transparent to the Roentgen rays. These consequences, however, although they may not be due to the action of the Roentgen rays, have an interest peculiarly

their own and I cannot help thinking that they have not yet received the attention which they deserve. I cannot help thinking that in a few years' time, or even in a few months—for everything in connexion with our subject advances with startling rapidity—it is quite possible that the existence of the ether waves which produce these results will be regarded as a matter of scarcely less importance than the existence of the Roentgen rays themselves. These waves have scarcely been studied as yet. Their action has been dreaded and avoided rather than courted. Every attempt has been made to eliminate and get rid of them. But of their power to influence the processes of nutrition which take place in the tissues for good or for bad, according to their strength and mode of application, there can be no question, and although in the strict definition of the title of this society they may not come within its scope I cannot help expressing the hope that the society may be made sufficiently comprehensive to embrace them and their action as well as the Roentgen rays themselves. Instances of the injurious power possessed by these ether waves when exposure has been too close or too prolonged will occur to everyone. They are matters of common notoriety. Hairs die and fall out. The cells that line the hair follicles perish, and though as a rule the hair is regenerated after a time the effect upon the surviving cells is shown by the weak and stunted appearance of the new growth and by the fact that it is often white in colour. The epidermis becomes dry and scaly in the same way. The nails are affected, and, briefly, if the exposure is sufficiently close the nutrition of the nearest and most superficial structures is so impaired that they die and are thrown off. In the worst cases the effect extends more deeply still. Not merely the epidermis, but the corium and even the subcutaneous tissues perish, so that when the dead structures do separate at last the destruction may be so great as to necessitate amputation. There is no inflammation at any time. The effect is entirely different from that which is produced by light or heat or by the action of the ultra violet rays. In the majority of instances no change of any kind is perceptible for upwards of three weeks. There is no alteration in the blood-supply or in the innervation of the part, no coldness or loss of sensibility. Doubtless the cells which form the walls of the smaller blood-vessels and the terminals of the nerves are affected like the others, but the death which follows is not due to cessation of the circulation or to defective innervation. Quietly and slowly at the end of about three weeks cell after cell perishes, layer after layer is thrown off, until at last a stratum is reached in which there is still sufficient vitality to enable the tissues, if everything else is favourable, to hold their own and to begin the process of repair. Every case hitherto recorded has been characterised by these peculiar features—features which distinguish these injuries from all others. There is first a long period of quiescence in which no change of any kind is apparent, a period of weeks. Then there is a period of decay and death, extending more or less deeply according to the duration and the closeness of the exposure, entirely uninfluenced by treatment. There is no evidence that anything in the way of active treatment has stayed the process in the least, though it is not improbable that it has sometimes made it worse. And this in its turn is succeeded by a period of repair, as slow and as precarious as it is after an extensive frost-bite, the progress which has taken weeks to make often disappearing again entirely in the course of a few hours. I know of no way in which it is possible to account for such striking peculiarities as these, except in the assumption that the ether waves have profoundly affected the changes which take place in the living substance of the cells themselves.

Such were the results obtained in the earlier cases—results not anticipated and, above all, to be avoided. But because an agent at its first introduction, when its powers are entirely unknown, is found to be of a most destructive character it does not follow that when properly controlled and regulated it may not possess valuable properties of its own. And this appears to be true of these ether waves. Events and discussions of the past year have shown that the power which uncontrolled is able to destroy all that stands in its way may be tempered in such a manner as to prove a valuable source of help. That bacteria living in the tissues can ever be destroyed by its agency, as they can be when growing in artificial cultures conducted under special conditions, is highly improbable. The power of resistance possessed by these minute organisms is as great as, or even greater than, that of the tissues themselves, and anything which tends to lower their vitality would lower the vitality of the tissues to at least an equal degree. All hope, therefore, of destroying such organisms as the tubercle bacillus in the tissues must be laid on one side. But it has been shown that under the influence of these ether waves tissues which have been invaded by certain organisms and which were failing in the struggle may be so strengthened as to be able to cope with their invaders far better than they could before and even in certain instances gain the upper hand without any other assistance. Whether neuralgia and the pain of articular rheumatism and that which is caused by cancerous deposits can be relieved in this way, as has been asserted, I am not in a position to state. It is not unlikely that the benefit which has been experienced in these and perhaps in similar cases has been the product rather of psychical suggestion than of anything else. There is not at present sufficient evidence to say that it was not. But there can be no doubt that cases of lupus and of eczema have been cured by exposure to these waves, not the least successful having been those published in our Archives by Mr. Thurstan Holland, and that not only have they been cured but that the scars left have been of a singularly inconspicuous character, showing that the destruction of the living cells had been reduced to the smallest limit consistent with repair. How far this action is capable of extension it is not possible to say at present. The whole thing is in its infancy. But no one can deny that in these ether waves we possess a power which can quietly and imperceptibly modify the processes which are constantly taking place in living cells in such a way that we can either stimulate them to increased energy or depress their vitality until they quietly and slowly perish. The day may come when the existence of this power may prove of scarcely less importance than the discovery of the Roentgen rays themselves.

The time at my disposal is so short and the field of work so wide that I may not do more than allude to the immense improvements which have been made in the course of the past year in the manufacture of tubes suited to the much more heavy discharges that are being used now and in other technical details. Two especially stand out above the rest as of the highest practical importance in medicine and surgery—namely, the application of stereoscopy by which localisation has been rendered so much more easy and the relative position of deeply buried objects has been made visible; and, though it is far from probable that we have reached finality in this, the introduction of the Wehnelt break. The time of exposure even for such cases as renal calculi has been shortened from hours to minutes and even fractions of a minute. The risk of causing injury has altogether disappeared. Many operators can point to hundreds of cases which they have taken not one of which has ever suffered the slightest harm. The illumination now is much more brilliant and more steady. Clearness of definition has been increased almost beyond expectation and means have been devised by which photographs can be obtained of many of the soft structures in the body which were previously regarded as too transparent to throw any shadow. It is unhappily still true that a large proportion of the rays is wasted and lost, especially in taking photographs, and that a great deal of the detail is obscured in printing, so that the chief value is in the negative. In other words, we are not yet able to utilise to the full, or even nearly to the full, the light which we can produce. But there can be little doubt that in a short time these difficulties, too, will be overcome and that then the results which we shall obtain will be as superior to our present ones as these are to those of two years ago.

There is no branch of medicine or surgery which does not afford abundant evidence of the improvements which have taken place in the production and utilisation of the Roentgen rays in the course of the past year. The screen has now reached such a degree of perfection that with suitable apparatus the minutest movement of the heart and lungs and the least change in the action of the diaphragm can be watched and studied at leisure in the living subject. Photographs of the most deeply buried bones can now be obtained without difficulty. Measurements of such structures as the pelvis can be taken directly by a simple process of calculation without subjecting the patient to the least inconvenience. And the clinical records of the past year are full of instances showing what has been done and what can be done in medical and surgical practice. I am afraid I should exhaust your patience if I were to attempt to give an account of these cases which would be regarded

as in any way adequate by those who have recorded them. But there are some of so striking and definite a character that I may be forgiven for mentioning them. Many disorders which even after the discovery and the first application of the Roentgen rays were regarded as almost impossible of certain demonstration, such as aneurysms of the thoracic aorta, interlobar empyemata, mediastinal abscesses, and patches of central pneumonia, can now be shown upon the screen with the greatest distinctness and localised with absolute accuracy. Photographs can be taken of enlarged mediastinal glands and of other intra-thoracic growths. The illumination now is so steady and uniform that the earliest stages of tuberculous lesions in the lungs can be seen and recognised, partly by the curiously stippled shadows which they cast—partly by the visibly impaired movement which accompanies them—a fact which has not escaped the notice of some of those who are connected with life assurance. Cavities in the lungs, whether containing air or pus, can now be detected at once and the position and depth from the surface can be accurately mapped out, so that the question of the advisability of drainage and operation is once more coming to the front. The presence of adhesions, the alteration in the level of pleural effusions in different positions of the body, the distinction between sub- and supra-diaphragmatic collections, and the existence of cysts or of tumours projecting from the upper surface of the liver and raising the diaphragm can now be shown with the greatest clearness. And the same may be said of the changes in the position of the heart and in the size and shape of its chambers, whether brought about by disease or by strain thrown upon their walls by difficulties in connexion with distant vessels. They can be seen distinctly with the screen and can be watched from day to day, especially easily in those cases in which, owing to the presence of emphysema and the absence of cardiac dulness, the ordinary tests fail to give any information. There is, in short, scarcely any change in connexion with the lungs and the heart and great vessels which cannot now be seen and photographed, scarcely a disease of the chest or of the organs which it contains concerning which the most valuable information cannot be obtained. To such an extent has the fluorescent screen been improved and so easy has investigation with it been made that I am convinced that some day, and probably at no very distant date, the examination of a patient's chest with it will be considered as much a matter of routine and as little to be neglected in all doubtful cases as an examination with the stethoscope is at the present time. Valuable as are the indications given by the ophthalmoscope in obscure diseases of the brain they are not to be compared with those which can be obtained by systematic and skilled use of the fluorescent screen in diseases of the heart and lungs.

The benefit which surgery has derived from the improvements which have been effected in the use of the Roentgen rays during the past year is no less striking. Military surgery will have to be re-written. Thanks to the ease with which suitably planned apparatus can be carried on campaign all the wearisome and intensely painful probings after bullets and foreign bodies to which the wounded look forward with such dread have been swept away. The actual position of the bullet is defined at once, no matter how deeply buried it may be, and if removal is considered advisable it is cut down upon and extracted in accordance with well-defined anatomical principles and the track that it has made is left to heal up of itself. Shot and other substances such as portions of percussion caps have not only been localised in the eye, but their exact shape and size have been ascertained with so high a degree of accuracy that they could be removed by the most direct route through the smallest possible incision. Bullets, the position of which inside the skull could not even be conjectured, have been successfully localised and extracted from the brain. Foreign bodies, such as plates of false teeth which have been swallowed accidentally, or, worse still, have dropped into the air-passages; others, such as Murphy's button, introduced in the course of operation, splinters of bone, pins and needles of various kinds, wire sutures, fragments of glass which have been buried perhaps for years, and numberless other substances have not only been made visible, but have been marked out as accurately as if they had been lying in some perfectly transparent medium, so that they could be excised or not according to the degree of inconvenience which they caused and the relative danger of the operation.

As might be expected the largest proportion and the most striking cases have been furnished by the injuries and diseases of bones and joints. Those only who have experienced the difficulty of determining whether a fracture or a dislocation or both together may not be present in the neighbourhood of such a joint as the elbow when the soft tissues around are so swollen that no bony prominences of any kind can be felt can realise the immense help given by a well-lit fluorescent screen. It is no question now of long exposure or of keeping the patient, perhaps a child frightened and suffering pain, quiet for a considerable part of an hour, or even under an anæsthetic. Half a minute is enough. The nature of the injury is apparent at once and, what is even more valuable, it is no less easy to ascertain whether the fracture is properly set or the dislocation completely reduced. If the screen is of service to physicians in the diagnosis of intra-thoracic disease, the records of the past year have shown by numberless instances that it is no less valuable to surgeons by enabling them to make sure at a glance that the bones are in their proper relative situation without touching the splints or giving the patient a moment's pain.

Diseases of bones and joints have benefited no less than injuries. Thanks to the improved methods of the past year the hip-joint can now be radiographed with certainty. All the strange appearances which were so misleading and which were due in large measure to the distortion produced upon the photographic plates by faulty position can be eliminated, and the various forms of congenital dislocation can be differentiated from each other and from such complaints as coxa vara which are attended by deformity of a somewhat similar character. The fate which overtakes bony grafts implanted into defects has been watched as plainly as if the grafts were on the surface of a limb instead of deeply buried in its substance. Diseases such as sarcomata, tuberculous deposits, central abscesses, necrosis, and the like, which when they occur in deeply-seated bones are often exceedingly difficult to recognise and distinguish from each other, have been made perfectly plain. Cavities hitherto almost inaccessible without operation, such as the frontal and sphenoidal sinuses, have been brought within reach of the probe. Valuable help has been given in the diagnosis of antral and other maxillary tumours and a serious blow has been inflicted upon the reputation of the bone-setter who, now that the position of even the smallest bone can be shown to the patient in a photograph, has been compelled to alter his phraseology if not his practice. So far as surgery is concerned nothing illustrates the immense improvement which has been made in radiography in the course of the past year better than the detection of renal calculi. Until this year the instances in which they had been photographed and verified by operation were few and far between. I do not think that there had been any success at all, except in the case of a few thin and anæmic patients. Now, thanks more particularly to the work of Mr. Mackenzie Davidson in this direction, the detection of renal calculi can be looked forward to with a fair degree of certainty, and, what is even more valuable, as saving patients from unnecessary operation, the evidence can be trusted equally well when it is negative. In all ordinary cases it may be said that if no calculus is seen there is no calculus there to see. Unfortunately biliary calculi elude us still.

Such, ladies and gentlemen, are a few of the practical results of the improvements in radiography in the past year. There may have been no startling discovery—such do not occur every day—but there is no single method or part of the technique in which the advance has not been immense. Important as radiography has become already I believe the position to which it has attained is as nothing compared with that which awaits it. From the number and the scientific standing of those engaged in working at it there can be no doubt, even if fresh discoveries are not made, that the results will continue to improve and very likely at an even more rapid rate than they have done already, and that in a little while not only will every institution connected with medicine be equipped with suitable apparatus and, what is still more necessary, with skilled and scientific workers, without whom the best apparatus is perfectly useless, but that all patients, unless their complaint is of the most absolutely simple character, will be examined with the screen or be photographed as a matter of routine. Certainly they will expect to be, for even now, so highly do the general public appreciate the value of the discovery, it is no uncommon thing, and sometimes a rather embarrassing one, for them to come up for consultation armed already with radiograms of the affected part and not unfrequently with the most extraordinary impressions and opinions formed from them.

FRACTURE-DISLOCATION OF THE SPINE.

BY E. NOBLE SMITH, F.R.C.S. EDIN., L.R.C.P. LOND.,
SENIOR SURGEON TO THE CITY ORTHOPÆDIC HOSPITAL AND SURGEON TO ALL SAINTS' CHILDREN'S HOSPITAL, LONDON.

FRACTURES of the spine are attended by so great a fatality that from a very early period in the history of scientific surgery surgeons have been induced to attempt improvements in their methods of treatment of these accidents. There are three items of treatment which I propose to discuss; they are—reduction, open operation, and local fixation. Efforts to "reduce" the fractured parts have been made at various times with some degree of success, but the results are generally supposed to have been upon the whole unsatisfactory and have certainly not led as yet to any settled opinion as to the value of this treatment. During recent years, and especially since the introduction of antiseptic surgery, a considerable number of operations have been performed upon the spine in cases of fracture with varying results, but the general opinion is not yet favourable to such interference. I propose to review the records of certain of these cases and to try to show that what has already been done, both as regards reduction and also operation, is decidedly encouraging and that thorough local fixation is desirable in every case.

Unquestionably a very large number of sufferers from fractured spine must succumb to the injury in spite of any and every kind of treatment, and this fact renders an estimate of the results of our interference very difficult to form. If the cord be absolutely severed or irretrievably crushed, as so often happens, then of course our efforts will be useless, but it is seldom that we can be sure as to the amount of damage done until we come to make a post-mortem examination. The medical profession possesses records of a number of cases in which only slight injury to the cord has been inflicted or slight pressure produced, so that patients have gone on living for months or years with an incomplete degree of paralysis. It seems highly probable that reduction of the displacement in such patients and retention of the fractured parts in an improved position or removal of fragments pressing on the cord, with subsequent fixation, might in many of these instances have been followed by more complete relief. To discuss all the points which bear upon the subject of treatment of fractured spine would require more space than can be given in THE LANCET, but it is necessary to refer to the difference in fatality in accordance with the situation of the fracture.

Situation of the fracture.—It is clearly recognised that fractures of the spine have a greater fatality the higher they are situated in the column. In fracture of the lumbar region, including the lowest dorsal vertebra (the situation of the cauda equina), a considerable number of patients recover after ordinary treatment—that is to say, after treatment consisting in keeping the patient on a water-bed and attending carefully to bedsores, cystitis, and other complications. In the dorsal region (from the second to the eleventh dorsal vertebra) the mortality is far greater—that is to say, very few indeed of the sufferers recover, and those who retain their life are generally crippled by some amount of permanent paralysis. As to the cervical region (from the third cervical to the second dorsal vertebra), a fatal result is almost certain, it being seldom that the patient lives more than a few hours. As to the first two cervical vertebræ it is only just possible for fracture to occur in them without immediate death taking place. With regard to so-called trephining of the spine there are a great many serious points for consideration which cannot all be discussed in this paper, but in respect to reduction of the fracture it is contended that it is the right course to pursue in the majority of cases providing we exercise the greatest possible care in our manipulations. As to fixation, there can, I think, hardly be any doubt that the more perfect the fixation the better chance there will be for the patient's recovery.

Reduction of the fracture.—The view regarding this subject which is now offered may be expressed as follows. If we have to deal soon after an accident with a case of fractured spine in which the cord is not irretrievably injured, and if we can by extension of the patient's body and other methods replace the fractured parts into an approximately natural position and thereby relieve the spinal cord from pressure without producing greater mischief to the cord, and, furthermore, if we can retain the bones in that position, it will be the right course to pursue. In this statement the word "if" stands out very prominently and doubtless many will contend that such a combination of favourable possibilities seldom occur, but as we have evidence to show that, at least in some instances, the proposed plan has been successful, it may, it is contended, be reasonably hoped that with more accurate methods of reduction and fixation of the affected parts more frequent favourable results may in time be experienced.

Character of the displacement of the fractured vertebræ.—Before discussing the methods of reduction it is desirable to consider the position which the bones usually assume when a spine is fractured. The majority of cases of fracture occur from a violent bending forwards of the body, often termed a "doubling up" of the body. The spine above the fracture is bent forwards (assuming the patient to be in an erect position) upon those below. The body of the vertebra next below this deflected part of the column has its anterior upper part broken off and displaced forwards and downwards. The spinal cord is bent opposite the upper border of the fractured bone and pressed upon or crushed by the posterior upper edge of that vertebra (Fig. 1). There is also a separation between the spinous process of the fractured vertebra and the one above it. There are other features common to most fractures of the spine which might be described, but I have singled out the above as those which especially characterise the displacement.

FIG. 1.

A specimen of fractured spine (eighth dorsal vertebra) showing the ordinary position of the fractured bones. The cord is completely divided.

Treatment by reduction and fixation.—We will assume that the patient has been moved with the greatest possible care from the place where the accident has happened to his home or other place of rest and that the symptoms indicate an injury to the spine. Under such circumstances the patient's clothes should be cut away from him so that as little disturbance as possible of the injured part may be produced. The manner in which the accident has happened is an important point for inquiry, for if the patient has been "doubled up," as usually happens, the fracture will probably assume the typical form described above and the arches of the vertebræ may remain intact, whereas a direct injury is more likely to affect the laminæ. We can, however, never be certain that the laminæ are not injured. A manual examination of the spine should be made with great gentleness, the position of the parts carefully noted, and the spinous processes examined to see if they are moveable. If both laminæ of a vertebra should happen to be broken it will be obvious how easily injury may be done to the cord by any rough movement of the detached part. Even if we cannot detect any movement in a spinous process yet there may be fracture of one or more of the arches, and if the patient be placed flat on his back and an attempt be made to extend the body by drawing upon the arms and legs, the pressure of the mattress upon the projecting part of the spine may produce irreparable damage to the cord. Moreover, unless some means be employed to keep the trunk from moving sideways there is almost certain to be a rotatory movement at the seat of fracture or some lateral deviation in that part. Although it

is highly objectionable to apply pressure to the projecting spinous processes, as may happen if the attempt at extension of the spine be made while the patient rests supine on a mattress; yet, upon mechanical principles, such a fulcrum would facilitate reduction of the spine as a whole. If we could deal with the spinal column as if it were a bent rod of iron (as we can in spinal caries) we should apply pressure as shown in Fig. 2. A B represents a bent bar, C D a firm,

FIG. 2.

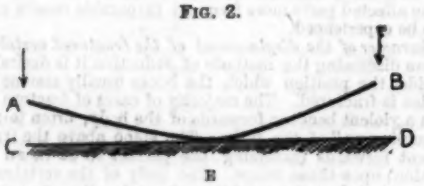


Diagram showing plan of straightening a bent bar.

flat surface, and the point of contact E acts as a fulcrum. The most efficient method of straightening the bar would be to apply pressure from above downwards in the direction of the arrows at A and B. This method would obviously be much more effectual than extending the bar longitudinally in the direction of the arrows F and G in Fig. 3

FIG. 3.

Diagram of bent bar.

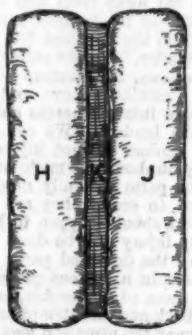
In dealing with a fractured spine the longitudinal extension (as indicated by the arrows F and G, Fig. 3) is the more important action, but we also require some amount of direct straightening, as depicted by the arrows A and B in Fig. 2.

FIG. 4.

Double sandbag.

This combined method of reduction can be safely and efficiently carried out by the following method. For the purpose of exemplification we will assume that the fracture is situated in the mid-dorsal region. A fulcrum should be

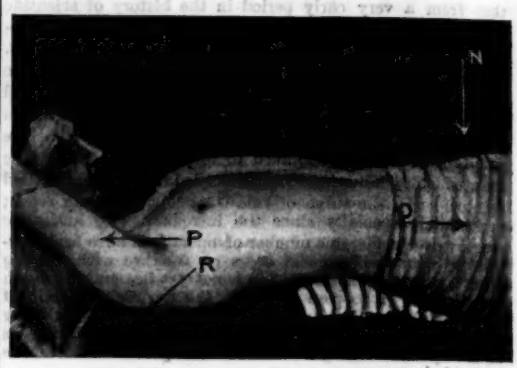
FIG. 5.



Double sandbag.

prepared by means of two sandbags (H and J, Figs. 4 and 5) a foot or more long and each about a foot in circumference. These sandbags should be united by a piece of canvas 1 inch wide, K. This double sandbag should be placed below the seat of fracture, as in Fig. 6, one end of the sandbags being placed opposite the seat of fracture. Then the lower extremities are to be secured by a force pressing the pelvis down in the direction of arrow N (Fig. 6) and by a force securing the lower limbs in the direction of arrow O. This having been effected by manual

FIG. 6.



Proposed method of reduction of fractured vertebræ.

assistance traction should be made longitudinally in the direction of arrow P and also very gently and gradually in the direction of arrow R by lowering the shoulder. If we examine this procedure by the light of a fractured spine (Fig. 7), the spine here being in the opposite direction, we shall see how the action tends to reduce the displaced parts. The spinous processes will be free from pressure between the two sandbags, the fulcrum being applied quite safely against the ribs, allowing a space of about from two and a quarter to three inches wide for the spine to rest in. If we have at hand a Chance's splint or the modification of it which I have devised we had better effect our reduction upon this instrument. Then we shall have our fixation

FIG. 7.

Fracture of eleventh dorsal vertebra.

apparatus *in situ* and be better able to prevent return of the parts to their former position after reduction—an event which has so often happened. The patient can be placed on this apparatus (Fig. 8), previously bent into the desired shape, instead of upon the double sandbag, and the shoulders lowered on to the upper part of the splint. If thought desirable the sandbags can also be used by being placed beneath the apparatus.

Another plan for reduction might be adopted. The patient could be placed in a prone position, when the spine would be straightened antero-posteriorly by gravity of the central part of the trunk and by tension of the psoas muscles. This would, however, be a dangerous procedure, as it would cause too violent a disturbance of the seat of fracture, unless the patient could be rested upon pillows placed under the abdomen so as to limit the amount of straightening. Further, if the patient were first seen lying on his back—which is most probable—then we should run the risk of having to turn him over and of disturbing the spine in that manner if we attempted to place him in the prone position. When the spinous processes are fractured in addition to fracture of the bodies of the vertebræ this

complication does not alter the position of the spine as a whole. When the laminæ or articular processes are broken the damage done to the spinal cord may be very severe and there may be little chance of recovery, but even in these cases we commonly find the spine bent in the forward direction already described, with the angle of deformity backwards, and if reduction is capable of doing any good the principle of antero-posterior reduction in addition to longitudinal extension is still the best.

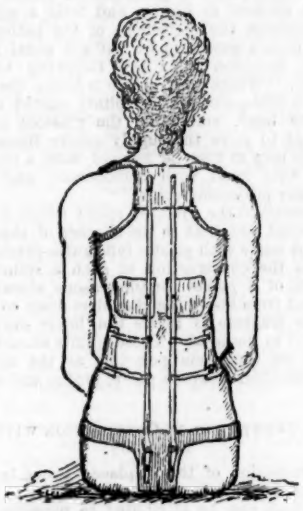
Fixation of the fractured parts.—Reduction of the fractured bones is of no use unless the parts can be maintained in their improved position. Recumbency in bed is not very effective in this respect, however much we may support the patient with sandbags or apply extension weights. By this

FIG. 8.

A patient with fractured spine placed upon a splint previously to an attempt at reduction.

method the mattress and bedstead are made to act as a splint to which the patient is very incompletely secured. Very slight movements of the patient will displace the position of the spine, and even without such movements the inaccuracy of the support may allow the fractured bones to get displaced almost directly after the reduction has been effected. The support might be slightly more effective if the patient were strapped down to the bed, but the irksomeness of this position and the risk, or almost certainty, of producing bedsores, as well as other obvious drawbacks, make this method quite undesirable. Chance's splint which has been so successfully used in the treatment of caries of the spine is by far the best contrivance which we possess. I have by degrees modified this splint so that it can be not only adapted with the greatest accuracy by the surgeon and moulded into any position while *in situ*, but also any part of it can be removed and replaced without taking away the main support. Longer bars can be substituted or larger or smaller pads applied, for instance, without disturbing the support of the spine. It produces no pressure whatever on the spinous processes, the support being applied on each side of these projecting parts. The whole spine is absolutely controlled and the patient is fixed up in a comfortable manner. The least little extra pressure at any one spot if it causes the patient discomfort can be at once relieved, the patient can be moved from side to side without disturbing the spine, and the whole apparatus is entirely under the control of the surgeon. It is constructed as follows. Two steel bars which can be bent by wrenches into any desired position extend from the level of the shoulders, one on each side of the spine, down to the buttocks (Figs. 9 and 10).[1] These bars are secured to the pelvis below by a rigid belt softly padded and to the shoulders above by arm-straps and a square pad between the shoulders. Side-plates, also very softly padded, are adjusted just below the fracture. (In the figures this apparatus is applied to a case of caries and the side plates are applied just above the angle of deformity.) The abdominal belt can be applied after the other parts are adjusted. The bars of this splint can be easily bent with wrenches into any position without removing the splint and the side-plates and other parts can be altered from place to place and there fixed by means of nuts. The arrows A, B, C, and D show the direction of the supports. With this apparatus we obtain complete control of the spine. The long leverage, the avoidance of pressure upon the chest—so important when the breathing is at all embarrassed—the possibility of accurate adjustment without removing the apparatus, the exposure of the parts to view, all combine to make this splint far superior to any plaster or other jacket. Jackets take their point of support for the upper part of the spine by pressing on the

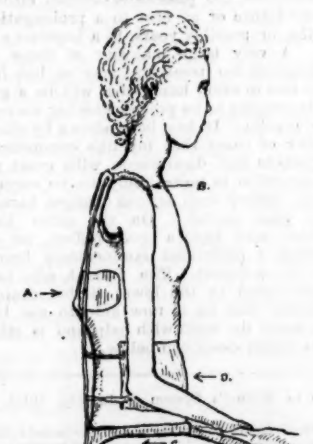
FIG. 9.



The splint as used in a case of spinal caries.

front of the thorax, thus impeding the respiration; they only extend to the level of the axillæ and therefore do not completely control the spine; they press uncomfortably on the abdomen and interfere with attention to bedsores. In using the metal splint bedsores can be easily dressed without removing the splint and we can alter its points of

FIG. 10.



The splint as used in a case of spinal caries.

pressure with the greatest facility; moreover, the patient can be moved laterally without disturbing the fixation of the fractured part—an immense advantage. In fracture lower down the spine the principles of fixation just described also apply. For fracture in the cervical region other

[1] Spinal Caries, by Noble Smith. Second edition. London: Smith, Elder, and Co. 1897.

details will be required and a moulded gutta-percha splint applied to the neck and fixed to a headpiece carried up from the back instrument will generally be necessary, but the gutta-percha mould alone would be far less support to the upper part of the spine than when it is further assisted by a splint, which controls the whole column. If this splint is not available we may use other methods upon somewhat the same principles. The late Mr. Wormald advocated the use of a softened sheet of gutta-percha placed beneath the patient and allowed to harden and form a splint. It was found to facilitate the movement of the patient laterally.[2] This would form a good support but not equal to the metal splint. Mr. Jacobson adds the following very practical observations: "Where the fracture is above the lower dorsal vertebræ this (the gutta-percha splint) should be carried as high as the head, embracing the mastoid processes and occiput so as to more thoroughly secure these parts. The splint, which may at first be secured with a roller bandage, should be well lined with cotton-wool and a hole cut opposite to any projecting spine."[3]

Having described the kind of splint which I believe to be the best I would add that in the absence of this apparatus a splint may be made with plastic felt, gutta-percha, or plaster-of-Paris, but the construction of such a splint should not take the form of a jacket for the reasons already given. It should extend from above the shoulders down to the buttocks or when the fracture is above the lower dorsal region it should extend to the head. These splints should be attached to the body on the same principle as the metal splint—namely, by shoulder-straps, a pelvic girdle, and an abdominal belt.

OPERATIVE TREATMENT IN CONJUNCTION WITH THOROUGH FIXATION.

If, after reduction of the displaced bones in the manner described and fixation in an improved position, there remain symptoms which can be attributed to pressure on the cord, the question of operation presents itself for consideration. Thorburn, remarking upon the great fatality of fractures of the spine, observes that in those exceptional cases where "a fairly satisfactory recovery occurs" without operative treatment, "recovery sets in early, probably within a few days of the accident, and that such recovery is progressive, so that when the progress has once been checked we find no further change for the better, however long the patient survives."[4] If this statement is correct we must infer that if, after the short period alluded to, no symptoms of recovery present themselves, the patient is doomed either to death in the very near future or at best to a prolongation of life for some months, or possibly years, in a hopeless and miserable condition. A very large majority of these patients will succumb whatever our treatment may be, but if we can save only one or two in every hundred it will be a great achievement, and it remains to be proved whether we may not obtain even better results. It has been shown by observation of a large number of cases that myelitis commences early and extends upwards and downwards with great rapidity, and therefore operation is more likely to be successful if performed early, before such serious changes have taken place, than at a later period. On the other hand, even a late operation may have a good effect, as shown by a case in which I performed laminectomy four and a half years after the accident. The patient who had been considerably paralysed in the lower limbs regained power to such an extent that he is now able to use both legs and can hobble about the ward with help and is still improving. This case is briefly described below.

[2] Jacobson in Holmes's System of Surgery, third edition, vol. i. p. 670.

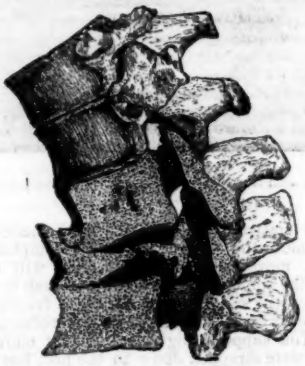
[3] Mr. Jacobson remarks upon Sayre's plaster jackets (Holmes's System of Surgery, op. cit., p. 671): "This method of treating fractured spine will be found chiefly useful in the later stages of treatment of fracture of the dorso-lumbar and lumbar spine. If made use of within the first two weeks of the injury there must always be a risk of pressure sores taking place beneath the jacket. These sores might in all probability have occurred in any case but they are liable to be increased both in depth and extent by the pressure of the recumbent body on the plaster-of-Paris, and if once they form the retention of foul material beneath the jacket will be a source of discomfort if not of danger. The above refers to cases of fractured spine with severe injury to the cord, but where, from absence of any signs of paralysis in the lower extremities, bladder, &c., there is reason to hope that the cord has escaped, the jacket may be applied with benefit at an earlier stage." [This criticism does not apply to the adaptable metal splint.]

[4] A Contribution to the Surgery of the Spinal Cord. London: Griffin and Co. 1898.

THE POSSIBILITY OF RECOVERY, PARTIAL OR COMPLETE, FROM FRACTURE-DISLOCATIONS IN THE DIFFERENT REGIONS OF THE SPINE.

Lumbar region.—We have records of a considerable number of cases of fracture-dislocation in the lumbar region in which life has been prolonged for years or in which complete recovery has taken place. It has already been mentioned that injuries of this part of the spinal column differ from those occurring higher up by being less fatal in their results, one reason for this difference being that the contents of this part of the canal consist of a bundle of nerves instead of a delicate spinal cord, and such structure is less liable to injury from crushing. Further, the bones here are more solid and less liable to displacement. As an example we find a case recorded by Jacobson[5] in which the first and second lumbar vertebræ were fractured. There was partial loss of power in the lower extremities which passed off gradually and the man returned to work quite well at the end of nine months. Being killed a week later by the fall of some coal the injured portion of the spine was obtained and is here depicted (Fig. 11). As

FIG. 11.



The eleventh and twelfth dorsal and the upper three lumbar vertebræ. A section has been made of the lumbar vertebræ showing the second lumbar bone partly absorbed and pressing backwards into the canal. Mr. Jacobson thought that this projection was new repairing bony growth.[6]

a rule, however, when patients recover from injury, even in the lumbar region, such recovery is only partial. The following illustration (Fig. 12) shows such a case and although the man lived for 26 years the deformity of his spine greatly impeded his progression. It seems highly probable that reduction of the displaced bones, and possibly also operation, would have left the patient a sound man instead of his having been a permanent cripple during the remainder of his life. There was complete loss of power in the lower limbs, but sensation remained and the control over the bladder and the rectum was normal. The patient recovered so far as to be able to walk with a stick, but with a peculiar waddling gait, the toes being turned inwards and the body slightly bent.[7]

That laminectomy can undoubtedly conduce to the restoration of the lost functions of the lower limbs is proved by a case recorded by Mr. Mansell Moullin.[8] A patient had a fracture dislocation of the second lumbar vertebra with paralysis of motion below the seat of injury. "There was considerable displacement in the lumbar region." When he was seen soon after the accident Dr. Male succeeded in reducing the displacement. A few days later in carrying the patient down some stairs to bring him to the hospital the displacement occurred again. Nine weeks after the accident, improvement having ceased, laminectomy was performed. Symptoms of recovery commenced almost immediately after the operation and the patient gradually regained power over his legs. A year after the accident the patient could walk up and down stairs without a stick and

[5] Op. cit.

[6] I am indebted to Mr. Holmes, Mr. Jacobson, and to Messrs. Longmans and Co. for permission to use this and the next illustration.

[7] Recorded by Carr Jackson: Transactions of the Pathological Society, vol. xxviii., p. 206.

[8] Brought before the Clinical Society, January, 1892.

FIG. 12.

Spinal column of a man who lived 26 years after fracture of the upper lumbar region.

could stoop down and lift himself up without the least difficulty.

Villar of Bordeaux published a case of fracture of the twelfth dorsal vertebra (considered, as previously stated, to be in the lumbar region) in which the lower extremities were completely paralysed. An operation was performed and fragments of bone were removed which were pressing on the cord and the patient regained complete power over his lower limbs and bladder.[9]

Dorsal region.—Complete recovery followed laminectomy in the lower dorsal region in a case recorded by Mr. Golding-Bird. The paralysis was very extensive, respiration being diaphragmatic. A few days after the accident, as the paralysis was extending, an operation was performed. Two days after the operation there was complete return of sensation in the legs and two months later the patient was sent home perfectly well, although for the sake of safety she continued to wear a plastic felt jacket.[10] The difficulty of determining the exact nature of the injury until an operation is performed is shown by a case reported by Dr. David Knox of Glasgow in which, although there was evidence of displacement of the eleventh dorsal vertebra, the amount of that displacement and the extent of the fracture could not be clearly diagnosed until the parts were exposed. It was then found possible by extension to reduce the displacement. The day after the operation the patient had completely regained sensibility in his legs. Restoration of motor power was slow but steady. At the time of report the patient was beginning to walk.[11] In reply to an inquiry Dr. Knox has kindly informed me that this man subsequently returned to his work as a miner, remaining in good health for about six years. He died from phthisis on March 11th, 1897.

Even when the injury is as high as the seventh dorsal vertebra very extensive displacement involving damage to the spinal cord may be recovered from after laminectomy. The case is recorded by Dr. Ridenour. In operating the seventh dorsal vertebra was elevated into position by the finger and all rough and sharp prominences were cleared away and the parts brought as accurately as possible into apposition. Six months after the accident the patient was getting about with a stick and was improving.[12] Mr. Arbuthnot Lane found in one case displacement of the tenth dorsal vertebra so that the cord was pressed between the laminæ of the tenth and the body of the eleventh dorsal vertebræ. The cord was apparently squeezed rather than crushed. The dislocation was reduced partly by extension of the patient's body and partly by traction with lion forceps upon the spinous process of the displaced bone and reduction was kept up by wiring the spinous processes of the tenth and eleventh vertebræ together. Good results followed, but the patient was uncontrollable. He kept constantly rolling about so that the vertebræ became displaced again and the cord was completely divided.[13]

Cervical region.—Even when we come to the cervical region, injury to which part is so commonly fatal, we yet find cases recorded in which complete or partial recovery has taken place. In a case of fracture-dislocation of the seventh cervical vertebra with complete paraplegia below the seat of injury Mr. Battle succeeded in reducing the displacement and the patient ultimately recovered, so that a year later he could walk four miles with the aid of a stick and was still improving.[14] That pressure on the cord in the cervical region is not necessarily immediately fatal is shown by a case recorded by the late Mr. Page of Carlisle. The patient lived 15 months after an accident, although a wedge-shaped portion of the cervical vertebra was projecting into the canal, opposite which the cord was so nearly divided that a portion only of less size than a crow-quill remained entire for the space of about three-eighths of an inch. Immediately above and below this the cord was reduced to a softened pulp, but elsewhere it was firm and healthy.[15] We even find that a man may live for 14 years after fracture of the fifth, sixth, and seventh cervical vertebræ. Such a case was recorded by the late Mr. Hilton. The patient fell 40 feet from a tree and remained paralysed below the neck.[16] Upon reference to the illustration which is given in the record of this case it seems possible that had the patient been treated by gently applied longitudinal extension and *retention* of the spine in an improved position some better result might have been attained.

One great drawback in treating cases of fracture in the cervical region has been the difficulty of keeping the parts at rest, and as instances are recorded in which, although ultimately fatal, symptoms of repair have occurred, it seems reasonable to suppose that if fixation of the fractured parts was in all instances made more effectual better results might take place. Distinct symptoms of repair were noted in a case described by Thorburn of "diastasis in the cervical region" in a man, aged 39 years, who lived for eight weeks.[17] In another of Thorburn's cases (No. 15), although it was not described as a fracture, there were evidences of severe lateral dislocation of the fifth cervical vertebra with injury to the left fifth cervical nerve root and hæmorrhage into the cord at the origin of the sixth nerve roots. The dislocation was reduced and the patient recovered. Even if there was no fracture, which seems a matter of uncertainty, yet the case has a distinct bearing upon our subject. It has been shown that in fractures (in the cervical region especially) the fractured parts may right themselves and yet the lesion produced in the spinal cord, and particularly hæmorrhage, may cause disorganisation of the cord and consequent death, and it is argued that trephining or any other treatment under such circumstances must necessarily fail to give permanent relief. It seems possible, however, that the permanent damage to the cord occurs in some cases from movements of the parts due to inefficient fixation, for we have instances in which severe injury attributed to hæmorrhage (hæmatomyelia) producing serious symptoms of paralysis have not been so fatal.

There is this great difference in these two conditions. In fracture the parts are more moveable than when there is no fracture, and the question arises whether this difference in stability does not account to some extent for the difference in results, and if so it points to the necessity for more accurate fixation in cases of fracture. Further, in some even of these cases of supposed hæmatomyelia the results might possibly have been better if complete fixation had been effected. Thorburn's case 21 gives strong evidence of good attempts at recovery. The case was one of bullet wound in the cervical region. There was only partial paralysis but Thorburn considered that the lesion was not entirely outside the cord. He thought that the bullet must have struck the spinal column somewhere immediately below the point of exit of the fifth cervical nerves, there injuring the cord, either by a direct wound or indirectly due to bony splinters or by causing a meningeal hæmorrhage. This seems a case in which an operation might have relieved pressure and have benefited the patient. There were efforts at recovery, for she regained some power but only lived a year after the accident. No post-mortem examination could be obtained. Mr. Sanderson Mellor of West Malling reported[18] a very interesting case of fracture in the cervical region, the injury being diagnosed by three surgeons who saw the patient. There were displacement, great pain, and crepitus. By simply keeping this patient at rest in bed supported as well as could

[9] Semaine Médicale, April 5th, 1893.
[10] Brit. Med. Jour., May 23rd, 1891.
[11] THE LANCET, May 23rd, 1891, p. 1168.
[12] Medical and Surgical Reporter, Philadelphia; THE LANCET, Oct. 17th, 1891, p. 894.
[13] THE LANCET, Sept. 17th, 1892, p. 661.
[14] THE LANCET, June 4th, 1892, p. 1242.
[15] Jacobson, op. cit.
[16] Rest and Pain, third edition, p. 116.
[17] Op. cit.
[18] THE LANCET, March 15th, 1890, p. 596.

be, presumably by sandbags, recovery gradually took place and eight months after the accident the patient walked into Mr. Mellor's surgery and stated that he intended to undertake some light occupation. In answer to an inquiry Mr. Mellor has very kindly given me the subsequent history of the patient. "He lived six years after his accident and died from fracture of skull." He was whitewashing the ceiling of his own house and fell off the plank and received the fatal injury. Recovery from fracture in the cervical region after rest and fixation occurred in a case under the care of Dr. Macewen of Glasgow, who did not trephine because there seemed no necessity for doing so. The patient recovered completely.[9]

As to injury to the first two vertebræ a case of fracture of the odontoid process is recorded by Dr. Walter Gibson. The displacement was reduced by applying steady traction to the head in the direction of the spinal axis. The dislocation was reduced with a slight snap accompanied by very distinct crepitus which made it evident that there was fracture as well as dislocation. The prominence which had appeared in the cervical spine was then found to have disappeared and the head and neck assumed a natural line with the body. The patient at once expressed himself as entirely relieved from the severe pain from which he had suffered and "felt fit to go about." His head was fixed by pillows and sandbags and he continued to make satisfactory progress until the evening of the twenty-third day when, contrary to orders, he took some solid food, was seized with severe griping pain in the stomach, started up in bed, and almost immediately dropped back and expired. His head had fallen forwards into the position it occupied after the accident.[10] At the post-mortem examination Dr. Gibson found no sign of structural injury to the cord except a small indentation on the anterior surface. It seems probable that if after the reduction the spine had been supported in the manner already advocated further displacement would not have occurred and the patient would have had a very good chance of recovery.

I will now refer briefly to a patient upon whom I operated by laminectomy. I must defer a more detailed description of this case for a future publication. A man, now aged 28 years, fractured his spine by a fall from a horse on June 1st, 1893, and was so far paralysed below the seat of injury that his lower extremities were absolutely useless to him. On Feb. 5th, 1898 (four years and nine months after the accident), I removed the laminæ of the tenth and eleventh dorsal vertebræ which were pressing on the cord. Extensive bedsores from which he had previously suffered quickly healed up. The functions of the bladder and bowels improved so that on March 15th he had regained so much control over the bladder that instead of the urine constantly dribbling away he was able to retain it for half an hour at a time and was conscious when he wished to pass it—a condition which had not previously existed since the day of the accident four years and nine months previously. He has steadily improved and can now move about the ward supporting himself on chairs. At the present time (January, 1899) he can retain urine for three-quarters of an hour but he still suffers from paralysis of the sphincter ani.

Observations.—I have made no attempt to record or analyse the results of all cases treated by reduction or by laminectomy, but have selected typical cases as I have come across them. The point aimed at has been to show that active treatment has been successful in a considerable number of cases and that therefore we are justified in employing such treatment. The number of failures matters little or nothing, but even in the recorded cases of failure there has generally been some temporary relief of symptoms following active interference. The line of treatment which seems indicated by the evidence before us is: (1) to apply fixation of the spine in every case; (2) if any distinct displacement exists to attempt reduction; (3) if displacement of bone obviously causing pressure on the cord exists which cannot be relieved by reduction to proceed at once to perform an open operation; (4) if no bone displacement obviously causing pressure exists to wait a short period of time to see if any restoration of function will take place without further interference; and (5) if after waiting this period of time no sufficient improvement shows itself and the symptoms do not indicate complete division of the cord to cut down upon the spine and perform laminectomy or whatever other operation may be indicated, with a view to relieving pressure upon the spinal cord.

Diagnosis.—In all cases of fracture-dislocation of the spine in which an operation is contemplated the first points which have to be considered are the nature and degree of injury which the cord has sustained, for if its structure has been irretrievably damaged at the time of the accident it is obvious that all operative attempts to alleviate the condition must be useless. To decide with any degree of accuracy the amount of injury which the cord has suffered is often a very difficult matter. The amount of deformity present is not of much help, for a cord may be completely divided by a momentary dislocation of the bones which afterwards leaves little or no deformity, while, on the other hand, in an extensive fracture the cord may have suffered much less than appearances would lead one to suspect; moreover, the question of hæmorrhage, both inside and outside the substance of the cord, has to be considered. I shall, however, content myself with briefly reviewing the principal signs which indicate that the structures of the cord have been completely divided.

In the first place it must be stated that an accurate conclusion as to the amount of injury which the cord has received cannot be arrived at during the first few hours after the accident, for many functions are often for a time inhibited by shock and are afterwards completely restored. After the early symptoms of shock have passed off a careful examination of the functions of the cord must be made. If the cord has been completely divided there will be absolute loss of all functions below the seat of injury. The muscles will be powerless and the limbs quite limp and motionless; sensation of all kinds will be abolished, control over the sphincters will be lost, and no deep reflexes will be obtainable. That all sensation and power of movement should be completely lost when the structures of the cord have been divided is only what would be expected since the conducting fibres are in such a case completely interrupted, but the loss of the deep reflexes is not so easy of explanation. It was first pointed out by Dr. Charlton Bastian that the knee-jerks entirely disappear when the cord is completely divided even when the lesion is high up in the dorsal region, and this fact, which was contrary to the general belief, has since been confirmed by numerous other observers. On the other hand, if the lesion is incomplete the knee-jerks are exaggerated, except when there is injury to the reflex centres in the lumbar region. It may therefore be considered that the condition of the knee-jerks becomes an important factor in diagnosing the degree of injury to the cord. The mechanism by which the deep reflexes are lost in such conditions has not at present been clearly explained, and although a descending inflammation will account for some cases there are others in which a careful examination of the cord after death has failed to show any inflammatory changes in the lumbar region. If the injury occurs in the lumbar region itself the knee-jerks may of course be lost owing to direct injury of the centres upon which they depend even in cases of incomplete lesion, and therefore in such a case the loss of the knee-jerks *per se* in no way contra-indicates operation. A good example of this condition is seen in the case which I last mentioned: there the wasting of the lower limbs, together with the distribution of the paralysis and anæsthesia, clearly indicated an injury to the lumbar region of the cord, and therefore the loss of the knee-jerks no doubt depended upon direct injury to the reflex arc. The loss, therefore, in this case was no guide to the extent of the injury, and that the cord could not have been crushed was amply proved later by the recovery of power which followed operation. It follows also that as the knee-jerks can be lost from a transverse lesion of the cord situated above the lumbar region, the loss of these reflexes does not indicate with any certainty the lower limit of the lesion, although the presence of the knee-jerks will indicate that the lumbar centres have escaped destruction.

Queen Anne-street, W.

[9] Brit. Med. Jour., April 5th, 1890.
[10] THE LANCET, Sept. 5th, 1896, p. 429.

KING'S COLLEGE.—The Right Hon. A. J. Balfour, M.P., has consented to take the chair at a festival dinner at the end of November in aid of the fund in course of being raised to provide new laboratories at King's College, London.

ALBUMINURIC RETINITIS.

BY SAMUEL WEST, M.D. OXON., F.R.C.P. LOND.,
ASSISTANT PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

IN its typical form albuminuric retinitis is characteristic and pathognomonic, yet upon many important points the statements of different authorities are very conflicting and difficult to reconcile. Kidney diseases fall into two great groups according as dropsy is a prominent symptom or not, and the kind of albuminuric retinitis most frequently met with in these two groups will, I think, be found to be different. The lesions of albuminuric retinitis consist in white patches, in hæmorrhages, and exudation variously combined with each other, and, lastly, in quasi-inflammatory conditions.

The exudative (inflammatory, extreme) form.—In this form the changes are widespread and extreme, and closely resemble what is seen in other forms of acute neuro-retinitis. Dropsy is not very common in granular kidney, so this form of albuminuric retinitis but rarely occurs in this disease, but is more frequently met with in the other group—viz., in that of parenchymatous nephritis. Complicated as the question is we seem to be justified in drawing these conclusions—that this form of albuminuric retinitis is of an exudative inflammatory type, that it is probably of toxic origin, and that it is related rather to the cellular degeneration than to the interstitial fibrosis. If the view which I am expressing prove to be correct it follows not only that the kind of albuminuric retinitis which prevails in the two forms of renal disease is different, but that it has a different diagnostic value in the two cases. In parenchymatous nephritis the diagnosis of the disease is obvious and the albuminuric retinitis is an interesting by-phenomenon only. In granular kidney the diagnosis may be uncertain until all doubt is dispelled by the discovery of the characteristic eye-changes. It is to this group that some of the cases of albuminuric retinitis of pregnancy belong. On the other hand, many more of these cases in pregnancy belong to the degenerative group and are evidence of granular kidney. Puerperal eclampsia occurs in either form—in the former rarely without dropsy and in the latter not infrequently without.

The degenerative form of albuminuric retinitis consists in white patches and hæmorrhages. Of these the most characteristic are the white patches. There are, I believe, two kinds of white spots, the one forming bright spots glistening like fish scales, the other not so glistening or so sharply defined but woolly in appearance. The former are the result of degenerative changes and their brilliancy depends upon the presence of minutely refractive oil-drops or even cholesterine crystals; the latter are often small patches of exudation only. The former are of slow development and unlikely to disappear at all or only slowly and after a long time; the latter, however, may come and go rapidly. In parenchymatous nephritis the diagnosis of renal disease is usually obvious whether there be white spots or not. In granular kidney, however, the diagnosis may be uncertain until the eye-changes are discovered. The white spots, whether they be really exudative or degenerative, have therefore in granular kidney a diagnostic value which they do not possess in the other forms of nephritis. Early as the white patches or degenerative changes are they precede and result from still earlier changes in the vessels (silver-wire arteries). Although the silver-wire arteries are no doubt ophthalmoscopic evidence of the vascular degeneration, as are also the hæmorrhages and white spots, it does not follow that the vessels necessarily show the white silver-wire streaks before the other lesions are visible.

Of the hæmorrhages which occur in albuminuric retinitis it is not necessary to say much. Similar hæmorrhages may occur in both the exudative and in the degenerative forms, but they are probably produced in different ways in each case. In the latter they are the consequence of the vascular degeneration and are due to the rupture of the diseased arteries in the retina as in other parts of the body; in the former they are generally due to the rupture of over-distended veins consequent on the pinching to which the veins are subjected as they pass through the swollen disc.

Paradoxical as it may seem, it is in the so-called extreme forms of albuminuric retinitis, or, as I should call them, the exudative forms, that the prognosis both in respect of life and in respect of sight is not nearly so grave as it might appear to be, for if the kidney mischief recover, the eye lesion may resolve and the sight may be completely restored. If, as in pregnancy, the cause return, the retinitis may also return, and with each succeeding pregnancy the prognosis in respect of sight of course becomes worse. In respect of life the prognosis is that of the renal disease, and all, I think, that the albuminuric retinitis in these cases does is to show that we have a form of parenchymatous nephritis to deal with of a somewhat unusual severity. The white patches of granular kidney rarely disappear, but they are often present without much defect of sight. The ophthalmoscopic changes in the vessels are important as evidence of an arterial degeneration which is not limited to the eye and it is a visual evidence of the risks to which the patients are subject from the disease of the vessels elsewhere—e.g., in the brain.

I may bring this communication to a conclusion by summing up the facts which I think justify the drawing of a sharp distinction between the two forms of albuminuric retinitis, the degenerative and the exudative. They stand in strong contrast with each other in the following respects:—

1. Of the form of disease with which they are usually associated—the degenerative with granular kidney, the exudative especially with parenchymatous nephritis.
2. Of their nature and cause, the exudative being inflammatory and probably toxic in origin, the degenerative consequent on vascular changes and more or less mechanical in origin.
3. Of sight, for the exudative, even in the extreme forms, may recover, with little or no defect of sight, but with the degenerative, if there is any impairment of sight, it is usually progressive.
4. Of diagnostic value, the exudative being an interesting by-phenomenon of chronic parenchymatous nephritis, an affection the existence of which is obvious enough, while in granular kidney the degenerative often makes the diagnosis certain in cases which have been hitherto obscure.
5. Of risk to life, for while in both cases it indicates a grave form of renal disease which may of itself prove fatal, in granular kidney it indicates in addition all those dangers to which arterial disease exposes the patient.

I think, therefore, that the distinction is not only justified by the facts, but that it explains many of the apparent contradictions which are made by different authors.

Wimpole-street, W.

FOUR CASES IN WHICH THE SYMPTOMS AND SIGNS SUGGESTED VOLVULUS OF THE TRANSVERSE COLON.

TREATED BY ROTATING THE BODY ROUND THE LONG AXIS WHILE IN THE HORIZONTAL POSITION.

BY G. H. HUNTER, M.R.C.S. ENG., L.S.A., D.P.H. LOND.

THE following four cases are of much interest and the rapid relief of symptoms which followed the treatment is very striking, but the evidence of the presence of a volvulus is by no means sufficient to make the diagnosis certain.

CASE 1.—The chief officer of a merchant steamer, aged about 27 years, a small, spare, thin, healthy, and abstemious man, took, according to his own statement, some "French purgative pills" on turning in at night. At about six o'clock on the next morning a message came asking that he should be seen "at once." On entering his cabin he was found to be lying on his back in his berth with both his knees drawn up, his mouth drawn down at the corners, his face ashen grey, his lips livid, and with beads of perspiration rolling down his brow and face. The skin was cold and clammy. He said that he had great pain "in the stomach," pointing especially to the right hypochondrium and the upper part of the right lumbar region. The muscles of the abdominal wall were rigid, but there was no tympanites. He was lying with his right side to the wall of his cabin and was approached from his left, and the left hand was principally used in examination. On palpating the regions named nothing could be made out owing to the muscular resistance. On being asked to inspire and expire deeply he attempted to comply but pain pulled the inspiration up short. He was then asked to turn on to his right side, as it was thought that the tips of the fingers could be pressed in under the ribs in

that position. He tried to do so, but when he had turned through an angle of about 75° he fell back on to his back with a sharp cry. He said that the pain was much increased by turning to the right side. A volvulus was diagnosed twisted from right to left and increased in tightness by turning to the right through the loop involved falling by its own weight round its own axis towards the left. To unwrap this the patient was told to turn round three times to the left while lying as straight out as he could. This he did, the first time turning with much pain and difficulty, the second time with less of both, and the third time quite easily. On settling on to his back again the blood returned in a wave over his face and lips and after a transient blush his face regained its normal appearance. On being asked how the pain was he said that it was "gone." The abdomen was lax and he allowed free manipulation, but nothing abnormal was to be discovered. He went on duty half-an-hour afterwards. He had never previously had any abdominal trouble, but he said that he "very occasionally required a laxative but not a purge."

CASE 2.—A woman, aged about 60 years, a multipara, who was very fat and who had been previously healthy and abstemious, was suddenly seized with severe pain in the same regions as those mentioned in Case 1 without any obvious cause. She treated herself with hot turpentine fomentations for three or four hours, but without relief. On examination, owing to the extreme obesity of the patient, nothing could be discovered except great muscular resistance. She was told to turn herself round in bed three times to the left, it having first been found that a half turn to the right increased the pain. She did so, when she expressed herself as being "in heaven." The pain had disappeared. Some weeks afterwards the patient had another attack of the same nature. On this occasion the axial rotation, though it relieved did not entirely remove the pain, which eventually yielded to small doses of opium and hot fomentations. She suffered from constipation and a good deal of flatus was passed, but eventually, in about five days, the bowels acted naturally.

CASE 3.—A girl, aged 12 years, who was strong and had been previously healthy, "was skylarking with her brother and hurt herself." When seen shortly afterwards she was in bed and complained of pain in the same regions as those mentioned in the previous cases. The pain was not severe, but was bad enough to prevent movement. There was not much tenderness on manipulation and no lump was to be felt. The pain and tenderness seemed to be superficial and it was thought that some of the muscular fibres had been torn. Hot turpentine fomentations and rest in bed were ordered and as the child was excited over missing her school attendance a little chloral and bromide were given. The bowels acted every other day. On the tenth day the pain increased suddenly and an urgent message was sent asking for immediate attendance. On being seen the face for the first time looked drawn but flushed. The temperature was 102° F. and the pulse was 112. On examination a firm oval lump was felt lying across the upper part of the right lumbar region, tympanitic but not very tense. The axial rotation from right to left was practised three times and the lump became quite soft and dull to percussion, but it did not disappear entirely though the pain ceased at once. On the next day the temperature and pulse were normal and there was no pain, but the lump was still tender on palpation though it was much reduced in size. The patient got up on the next day and went to school. Six months afterwards she was quite well and the lump had disappeared.

CASE 4.—A woman, aged 27 years, a multipara, who was stout and who from lack of teeth had been subject to dyspepsia but was otherwise healthy, took a Seidlitz powder during the hot weather of 1898. She drank it greedily "to get all the fizz." Shortly afterwards she was seized with "severe cramp in the stomach" and "felt inclined to vomit but could not do so." On being seen about four hours afterwards she looked a little flushed, but her condition seemed otherwise to be normal, except that the upper two zones of the abdomen were distended by gas, which could be heard as it rumbled about in the bowels. She had brought up a little flatus once or twice, which relieved the pain in the stomach somewhat, and a little flatus had also passed downwards. An emetic of a pint and a half of warm water with a little mustard was given, which acted promptly and brought up a good deal of gas and sticky mucus. This gave great relief. Half a grain of hydrochlorate of morphia was given by the mouth and another was left to be taken if any nausea should supervene. On the next day the stomach was in its normal state, but a large oval and very tightly distended lump was found lying across the upper part of the right lumbar region, extending about two inches into the umbilical region. The axial rotation as in the other cases removed the obstruction and pain immediately, and when the patient lay back in bed the lump had disappeared. The abdomen was freely examined and nothing abnormal could be felt.

In all these cases the pain was indicated as being most severe in the upper part of the right lumbar region, about two inches below the tip of the gall-bladder, but in Cases 3 and 4 the obstruction was evidently about the middle of the transverse colon. The practical point in all of the cases except in that of the second attack in Case 2 was the instantaneous and complete relief which was afforded from pain, and which was accompanied in the last two cases by the disappearance practically of the swelling. Finally, what were these cases? The success of the treatment by rotation strongly suggests the untwisting of a volvulus twisted from right to left, more especially as in Cases 1 and 2 an initial half turn to the right increased the pain (? by further twisting the pedicle). If this view be adopted axial rotation in the horizontal position might be employed in cases of sudden and severe pain in the regions which have been mentioned to diagnose the existence of a volvulus. A half turn first to one side and then to the other, if it increased the pain in one direction and not in the other, would suggest a volvulus and would point out the direction of the twist, and then rotation in the opposite direction ought to unwrap the volvulus.

Haughley, Suffolk.

THE DETECTION AND ESTIMATION OF PHOSPHORIC ACID IN A DROP OF BLOOD.

BY WILLIAM MACKIE, M.A., M.D. ABERD.

IT has been stated, chiefly, if not exclusively, on the authority of Continental observers,[1] that the proportion of phosphoric acid in the blood is increased in certain diseases and diminished in others. These results have been obtained by operating on large quantities of blood by methods which, on account of their intricacy and the length of time required for their execution, are altogether precluded as general clinical methods. The method of estimating phosphoric acid now to be described is suggested as an easy, expeditious, and sufficiently accurate method for comparative purposes. It has the additional advantage from a clinical point of view of requiring for its operation such minute quantities of blood as can easily be spared by the feeblest patient. It is colorimetric in principle and depends on the greenish-yellow tint which even very minute traces of phosphoric acid strike with a solution of ammonium molybdate in hydrochloric acid. The ordinary solution of ammonium molybdate in nitric acid, which is used in the chemical laboratory for the separation of phosphoric acid from acid solutions, may be used for the present purpose, but the latter throws down a precipitate much more readily than the hydrochloric acid solution. As the formation of a precipitate naturally vitiates the result the former solution is to be preferred. The colour reaction is accelerated and intensified by the application of heat. In the cold some little time is required for its development. The method may be so arranged that the determinations may be made in warm solutions. As the molybdate solution, however, by itself takes on a very slight colouration on heating I prefer when very minute quantities of phosphoric acid are to be determined to use cold solutions alone. In the cold the colour produced by one part of phosphoric anhydride (P_2O_5) is distinctly perceptible in 3,000,000 parts of water. After considerable search I have found no reference to the application of ammonium molybdate to the colorimetric estimation of phosphoric acid, so that both the method and the particular application of it to the determination of phosphoric acid in minute quantities of blood appear to be new. The same reagent, it should be noted, strikes a similar colour with arsenic and silicic

[1] Freund: Wiener Medicinische Wochenschrift, Band xxxvii., pp. 10, 40, 1887; Moraczewski: Zeitschrift für Physiologische Chemie, Band xxii., pp. 121–136, 1897; Virchow's Archiv, cxlvi., pp. 424–452, 1896.

acids in solution. The former might possibly be present in blood in certain cases, and where present would be likely to interfere with the reaction. Silicic acid is not present in blood, but both it and arsenic must be absent from all reagents used. Ordinary tap-water, owing to the presence of silicic acid,[2] takes a colour with the reagent which is often many times the intensity of the colourisation obtained in these determinations. The use of distilled water is therefore a necessary condition of the experiment.

For the application of the method the following apparatus and reagents are required:—

1. Where the determinations are to be made on *measured* quantities of blood a capillary pipette for measuring small but definite quantities, such as 50 cubic millimetres, is needed. Such pipettes may be obtained from Hawksley of Oxford-street graded at every 10 cubic millimetres up to 50 cubic millimetres. Where a chemical balance is at hand small *weighed* quantities of blood are to be preferred, as correction for specific gravity is thus obviated. The capillary pipette is in that case unnecessary. The same remark applies to the determination of iron in blood by the method described by me in a former paper.[3]

2. The small platinum capsule described in that paper is also necessary, also a forceps for holding the same. In this case it need not be platinum-tipped.

3. A pipette capable of taking up and delivering one cubic centimetre of fluid.

4. Two small well-matched beakers, No. 000, of about three-quarters of an ounce capacity[4] will be found suitable for blood determinations. Beakers have the advantage of permitting the application of heat quickly and without risk of fracture. Where larger proportions of phosphoric acid (e.g., in urine) are to be determined by this method somewhat larger beakers—up to No. 0 of the same set—may be used with advantage.

5. A solution of ammonium molybdate in hydrochloric acid. About five grammes of the salt are dissolved in a few cubic centimetres of strong hydrochloric acid and made up to 250 cubic centimetres with distilled water.

6. A solution of carbonate of soda and ammonium nitrate. This must be free from silicic acid. In making the determinations tabulated below the solution used was prepared by placing metallic sodium in contact with distilled water. Five or six pieces of sodium, each of about the size of a pea, are thrown one after the other on the surface of about 100 cubic centimetres of distilled water and the resulting solution of caustic soda saturated by passing into it washed carbonic acid. About two grammes of pure ammonium nitrate are then dissolved in it and the solution is placed in a Schuster's dropping bulb for use.

7. Pure hydrochloric acid 1 to 1.

8. A standard solution of sodium ammonium phosphate ($Na(NH_4)HPO_4+4H_2O$). This salt can easily be obtained in a pure state and 2·944 grammes are weighed out and dissolved in a litre of distilled water. One cubic centimetre of this solution = 0·001 gramme of phosphoric anhydride P_2O_5. For use five cubic centimetres of this solution are made up to 100 cubic centimetres when one cubic centimetre of the latter solution = 0·00005 gramme of P_2O_5.

A determination is made as follows. 50 cubic millimetres of blood taken from a finger-prick with the usual precautions are placed in the platinum capsule, or if a weighed quantity is to be operated on it is placed directly in the capsule, the capsule with the blood in it weighed, and the exact weight of the capsule being known the weight of the blood taken is also known. A couple of drops of the sodium carbonate and ammonium nitrate solution from the Schuster's dropping bulb are dropped on the blood. The capsule is then seized with the forceps and its contents first slowly evaporated over a Bunsen flame and when quite dry gently incinerated with the precautions already described in the case of the iron determinations. Caution is specially indicated when deflagration of the ammonium nitrate commences, so that none of the contents may be lost by too forcible combustion. When this is safely over the capsule is heated to bright redness till every trace of organic carbon has entirely disappeared. The capsule is then allowed to cool. A couple of drops of hydrochloric acid are then added, but so as to avoid any risk of loss by effervescence, and the capsule is again gently warmed till perfect solution of the contents is effected. They are then carefully washed into one of the beakers (A) with warm water from a small wash bottle. One cubic centimetre of the molybdate solution is added to this beaker and a like quantity to the other beaker (B) and both are made up to the same level with warm water from the wash bottle. In case of any possible contamination of the reagents with silicic or arsenic acids—and it is to be remembered that with time they take up traces of silicic acid from the containing bottles—two drops each of the hydrochloric acid and soda carbonate solutions may also be added to beaker B. Both beakers are now placed on a sheet of white paper spread on a cast-iron plate which is supported on a quadrupod and which has previously been heated and continues to be kept heated by a Bunsen burner placed beneath it. The wash water may be conveniently warmed by standing the flask on the same plate. The whole arrangement must be placed in a good light which equally illuminates both beakers. Beaker A will be found to show an amount of colouration proportional to the amount of phosphoric acid present in the specimen of blood under examination and this degree of colouration has now to be matched by gradually adding in a few drops at a time the standard solution of sodium ammonium phosphate from a measuring burette to beaker B, a minute being allowed after each addition for the full development of the colour. The tints are compared by looking down rather than through the beakers on to the white ground below. The number of cubic centimetres or fractions of one cubic centimetre required to produce equal tints is the measure of the quantity of phosphoric acid present. I find that the ordinary stoppered 50 cubic centimetre burette delivers at each drop as nearly as may be 0·05 of 1 cubic centimetre, so that if the number of drops necessary to give equal tints with the phosphoric acid in 50 cubic millimetres be divided by two we get the result in parts per 10,000 parts of blood. Thus if 19 drops of the solution have been required to give equal tints that specimen contains 9·5 of P_2O_5 in 10,000 parts of blood. If a weighed quantity has been taken a simple calculation is necessary. Thus, suppose 0·093 gramme has been taken and that 1·6 cubic centimetres are required to give equal tints we have—

0·093 gramme blood contains 0·00005 × 1·6 grammes P_2O_5
or 0·093 ,, ,, ,, 0·00008 ,, ,,
,, 93 grammes ,, ,, 0·08 ,, ,,
,, 9300 ,, ,, ,, 8 ,, ,,
,, 10,000 ,, ,, $\frac{8 \times 10{,}000}{9300} = 8{\cdot}6$

Below are tabulated a series of determinations which have been made by this method. These give as nearly as may

Amount of Phosphoric Acid in Blood as Obtained by the Method Described.

No. of specimen.	Date.	Age.	Sex.	Quantity of blood taken.	Phosphoric anhydride (P_2O_5) (parts in 10,000) found.	Result calculated as phosphorus in 10,000 parts.
				Cubic millimetres.		
1	10/7/98	42	M.	50	9·5	4·15
2	11/7/98	—	—	50	9·0	3·93
3	12/7/98	37	M.	50	6·0	2·62
4	13/7/98	37	F.	50	6·5	2·84
5	14/7/98	33	M.	50	8·0	3·50
6	16/4/99	43	M.	50	9·7	4·24*
7	,,	22	F.	50	6·0	2·62
				Grammes.		
8	30/4/99	22	M.	4·327	7·96	3·48†
9	11/6/99	20	M.	0·045	5·56	2·43
10	12/6/99	34	M.	0·038	13·12	5·73‡
11	,,	21	M.	0·0755	6·62	2·89
12	,,	32	M.	0·0845	8·31	3·64
13	4/7/99	18	M.	0·093	8·6	3·76
—	—	—	—	Average	8·087	3·52

* Strength of test solution had sensibly increased from evaporation

[2] From the relatively greater intensity of the colour produced by silicic acid I am of opinion that the reagent is likely to prove useful for the determination of silicic acid in potable waters without concentration, and after the separation of the silicic acid *secundum artem* for the estimation of the phosphoric acid in limited quantities, say, 25 cubic centimetres of the same water.

[3] THE LANCET, Jan. 22nd, 1898, p. 219.

[4] No. 77 of Becker and Co.'s catalogue.

in the interval. † A gravimetric determination throughout. ‡ An exceedingly florid subject.

Note.—Nos. 1, 2, and 6 are the same individual. The results of Column 7 are found from Nos. of Column 6 by multiplying these by $\frac{62}{142} = 0{\cdot}437$.

be 8 in 10,000 parts of blood as the average for healthy blood. This is probably very near the truth. These determinations, as will be seen, have been made partly on measured and partly on weighed quantities of blood. The former are subject to a slight correction for specific gravity. The latter, as already indicated, are to be preferred, but in such cases a delicate balance is a requisite. No. 6 of the series is a gravimetric determination and was made in general confirmation of the grade of the quantities obtained by the present method.

The method now described is applicable to the determination of phosphoric acid in other substances, whether organic or inorganic. The following among other results have been obtained on samples of urine. In each case a preliminary incineration as with blood was made. The result in each case has also been checked by determinations by other methods.

No. of specimen.	Specific gravity.	Character.	Quantity taken.	Percentage.	Method.
1	1028	Of lactation.	0·1235 gramme.	0·263	Colorimetric.
		"	10 cubic centimetres.	0·272	Volumetric.
		"	10 cubic centimetres.	0·270	Gravimetric.
2	1011	Nephritic.	0·489 gramme.	0·0542	Colorimetric.
			10 cubic centimetres.	0·0625	Volumetric.
3	10085	Of nervous excitement.	0·319 gramme.	0·0329	Colorimetric.
			10 cubic centimetres.	0·034	Volumetric.

A sample of cow's milk gave by this method: first determination, 0·2655 gramme being taken, 0·213 per cent.; a second determination, 0·0705 gramme being taken, 0·219 per cent. A determination of the serum of the blister of a burn gave 2·6 in 10,000 parts, 0·098 gramme being the quantity taken.

After a year's experience I am of opinion that the method just described yields satisfactory results and in addition to its being applicable as a clinical method for the determination of phosphoric acid in blood it is also likely to prove useful in many other cases where minute quantities of phosphoric acid have to be estimated.

Elgin.

CASE OF RUPTURED GASTRIC ULCER; RECOVERY.

BY ROBERT THOMSON, M.D. R.U.I.,
SURGEON TO THE MARGATE COTTAGE HOSPITAL.

A YOUNG woman, aged 19 years, had complained of symptoms of gastric ulcer for some 15 months, 10 of which had been spent under treatment in Cheltenham General Hospital. On July 13th, 1898, at 1 P.M., she partook heartily of a meal consisting of hot roast beef, green peas, spring cabbage, bread, and a tumblerful of ginger-beer, which was followed as usual by pain in the epigastrium and the back. About 5 P.M. she had just sat down to tea when she was hurriedly summoned to attend to some household duties. On rising quickly she was seized with a very severe pain in the epigastrium and with faintness and vomited a small quantity of fluid tinged with blood. The pain continued with increasing intensity and when seen at 8.30 P.M. by Dr. Sawers she was lying on her back with her knees flexed and was rolling about in agony. She was pale, cold, and perspiring profusely. On examination the abdomen was found to be flat, if anything retracted, and the walls were rigid; there was no movement on respiration. There were marked general tenderness, resonance on percussion, and entire absence of hepatic dulness. The diagnosis of a ruptured gastric ulcer was made and she was admitted to the Margate Cottage Hospital under my care at 10 P.M. On admission the pulse was 110 and the temperature was 96·5° F.; the other conditions were the same as at 8.30 P.M. Morphine was administered hypodermically, under the influence of which the abdominal muscles relaxed and distension soon appeared. At 11 P.M. she was anæsthetised with ether, a hypodermic injection of ether also being given. A median incision three and a half inches long was made commencing just below the ensiform cartilage, thereby exposing the anterior wall of the stomach which was drawn into the wound and examined, a considerable quantity of grumous fluid at the same time welling up from the space between the stomach and the diaphragm. As this extent of incision failed adequately to expose the rupture in the gastric wall a further incision one and a half inches long was carried upwards and outwards to the left, commencing at the upper end of the first incision and terminating at the costal margin, thus affording considerably more room. On careful examination the leakage was found to occur on the anterior surface quite close to the lesser curvature, just below the cardia, through an oval aperture about eight millimetres long by four millimetres broad, with thin edges, situated in the base of a small ulcer with thickened indurated margin. No further lesion was discoverable. The rent was included in a double row of silk Lembert sutures, the abdominal cavity was freely washed out with sterilised water, a Keith drainage-tube was inserted through an opening below the umbilicus, and the wound was united by silkworm-gut sutures in one layer. A quarter of a grain of morphine was given hypodermically and the patient passed a good night. On the 14th the morning pulse was 120 and the temperature was 100°. The evening pulse was 136 and the temperature was 102°. There was slight hiccough for two hours which was relieved by sips of hot water. The lower part of the abdomen was considerably distended, abdominal breathing was absent, and there was pain in the epigastrium which was increased by respiration. On the 15th the patient had passed a good night under morphine as before. The morning pulse was 120 and the temperature was 101°. The evening pulse was 116 and the temperature was 102°. The distension was gone, the abdominal breathing was restored, and the epigastric pain was much less and only recurred on respiration. The tongue was furred, dry, and cracked. The patient complained of hunger. During the first 48 hours after operation the bowels acted spontaneously seven times. On the 16th she had passed a good night. The morning pulse was 106 and the temperature 102°. The evening pulse was 100 and the temperature was 102°. The drainage-tube having been dry for 24 hours it was removed and replaced by a gauze drain which was also discarded the same evening. The pulse-rate and temperature now gradually fell until the 21st when the normal was reached and maintained. During the night of the 19th some oozing occurred from the upper end of the median incision which continued for about a week. On the 20th six sutures were removed, the remaining ones being left until the 23rd when they also were removed. Rapid uninterrupted progress continued until July 31st, when the temperature rose to 102° and pain in the left side was complained of. A soft pleuritic rub was audible in the fifth left intercostal space in the anterior axillary line and dulness subsequently developed below this point. On August 4th the patient was aspirated in the ninth intercostal space below the angle of the scapula and five ounces of turbid serum were drawn off. Within 48 hours the temperature came down to, and remained at, normal and the patient ultimately made a perfect recovery.

Feeding.—The stomach was not lavaged. Frequent sips of hot water were allowed during the first five days, nourishment being maintained by enemata of peptonised beef-tea and milk and meat enules, which did not irritate the rectum as did the beef-tea and milk and which on that account had to be discontinued. Feeding by the mouth was commenced on the sixth day and consisted of small quantities of zyminised milk at frequent intervals and barley water. The amounts which were given and the intervals between were gradually increased and undigested sterilised milk was added by degrees to the zyminised milk. After a few days bland farinaceous foods were largely substituted, then white bread, butter, eggs, boiled white fish, &c., until in the sixth week the patient was put on ordinary diet again, consisting in addition to the above, of meat, potatoes, vegetable marrow, plain puddings, &c. During the first fortnight that solid food was given the bowels acted almost involuntarily

immediately after each meal. There was no sickness at any time after the operation. The only pain worth speaking of ended within the first 48 hours, and digestion of the various gradations in diet during convalescence was comfortable and easy. Throughout the 12 months which have elapsed since recovery she has been engaged in domestic service, taking ordinary diet, with no dyspepsia except usually on the first day or two of the menstrual periods, a condition which has obtained since their first occurrence.

Remarks.—The early recognition of rupture in these cases and the earliest possible adoption of surgical measures for its relief are of the greatest importance. The exhibition of drugs is useless and only wastes valuable time, while surgical treatment in the majority of recorded cases has been thoroughly satisfactory. As regards the operation itself, the secondary incision was necessitated by the high position of the ulcer affording too limited space for the manipulation of the sutures. The pain and dulness in the left side with rise of temperature on the eighteenth day made me apprehensive of empyema or sub-diaphragmatic abscess, though the temperature had been normal during the preceding 10 days and aspiration was done early solely for diagnostic purposes as the amount of fluid (five ounces) was causing no distress.

I am indebted to Mr. W. Greenwood Sutcliffe for his kind assistance during the operation.

Margate.

PARTURITION COMPLICATED BY FIBROIDS OF THE UTERUS; POST-PARTUM HÆMORRHAGE; INFUSION; RECOVERY.

BY A. J. HELM MONTAGUE, M.D. DURH., L.R.C.P. LOND. M.R.C.S. ENG.,

AND

C. B. MOSS-BLUNDELL, L.R.C.P. LOND., M.R.C.S. ENG.

ON May 9th at 9.30 P.M. Mr. Moss-Blundell was called to see a married woman who had been in labour since 10 A.M. She was a primipara 39 years of age and was not aware, until three months ago when she consulted Dr. Montague, of the character of a tumour in her abdomen. On his arrival Mr. Moss-Blundell found that the pains were strong and of frequent occurrence—every two or three minutes. On vaginal examination the sacral promontory could be felt and the head, which had not engaged in the pelvis, was lying transversely with the occiput to the left and did not move with the pains. The os uteri was of about the size of a half-crown, the anterior lip being very œdematous; the membranes had ruptured and there was a fair quantity of blood-stained mucus in the vagina. On abdominal examination a lump attached to the fundus uteri, seemingly of about the size of a Tangerine orange, could be made out. The pulse was 100 and of good volume and regular. As the bowels had not been opened for three days a soap-and-water enema was administered without result. Dr. Montague was summoned, the os uteri meanwhile being dilated by the fingers. On his arrival delivery by the high forceps operation was decided upon. Chloroform was given and Dr. Montague applied the forceps. Owing to the pelvic contraction and the small size of the vagina the greatest difficulty was experienced in the extraction of the child. Indeed, at one time the question of perforation of the head was considered, but by dint of much exertion a stillborn child at full term was extracted, not, however, without rupture of the perineum which extended to, but did not divide, the external sphincter ani. This was immediately sutured and whilst this operation was in progress the placenta was expelled and one drachm of liquid extract of ergot was given, the uterus contracting well; it was felt to be studded over with round bosses easily palpable. A moment later there was a very severe post-partum hæmorrhage. The uterus was grasped bimanually, 15 minims of ergotin were injected into the buttock, and the vagina was washed out with a hot solution of perchloride of mercury, 1 in 1000. This checked the bleeding for the moment but the patient was in a very precarious condition. Although the uterus was kneaded continuously, bleeding in small quantities still continued, and about half an hour later the injection of ergotin was repeated. The patient's condition became worse, the pulse was uncountable, the face was pallid, extreme restlessness and sighing respiration were present, the breath felt cool, and she was semi-conscious. 20 minims of ether and one-thirtieth of a grain of strychnine sulphate were injected hypodermically and were repeated after a short interval. Infusion was deemed advisable. At 2 A.M. on the 10th Mr. Moss-Blundell therefore infused five pints of normal saline solution by the median cephalic vein. From the very commencement of the infusion her condition improved; the pulse was 120 at 3 A.M. and gradually grew stronger through the night. As she vomited and retched continuously, which increased the oozing, ice was given and the retching ceased at 5 A.M., after which there was no more hæmorrhage. At 6 A.M. the patient fell asleep and slept till 8.30 A.M. During the day she had half a drachm of brandy and half a drachm of Valentine's meat juice every hour. In the evening the pulse was 80 and somewhat weak, but the general condition was very satisfactory.

The patient's progress towards recovery has been uninterrupted and with one exception the temperature has never risen above normal. On the evening of the 13th thrombosis of the cephalic vein was noticed with some slight inflammation along its course and a temperature of 100·8° F., but this subsided on the application of glycerine of belladonna. The bowels were freely opened on the 14th by half an ounce of castor-oil followed by a copious soap-and-water enema. On the 15th the patient was taking milk puddings, fish, &c., and on the 23rd she was considered convalescent. Vaginal douches of biniodide of mercury, 1 in 1000, were employed throughout.

Remarks by Dr. MONTAGUE.—There is no doubt in my mind that recovery in this case was entirely due to the infusion of the normal saline solution. The perineum united by first intention. I am greatly indebted to Mr. Moss-Blundell for the able way in which he seconded my efforts in this case.

Worksop.

A NOTE ON THE ETIOLOGY OF RICKETS.

BY CHARLES ELGOOD, M.D. LOND.

AMONG the many theories that have been advanced to explain the origin of rickets the most acceptance is undoubtedly given to that which refers the disease to improper feeding. Amply as this cause may account for the disease as it occurs among the poor who frequent the London hospitals, it is when one meets with isolated cases occurring in districts where rickets is less common that one is struck with the mystery that still surrounds the origin of this disease. As it is the duty of every medical practitioner to place on record cases which appear to militate against widely received opinions no apology is offered for the following account.

The daughter of a farm labourer, aged 23 years, living with her parents in a cottage on a small farm, bore in 1885 to a healthy young gamekeeper an illegitimate male child. This boy, who was brought up entirely at the breast, has been several times under my observation, and though I carefully examined him on different occasions in childhood he never presented any single symptom of rickets. In 1886 the woman married a farm labourer, aged 25 years, and for about a year lived with him under her father's roof. The husband, though dull and harmless, was a heavy-looking, boorish fellow of rather slight build, standing five feet nine inches in height. He had coarse features, a sallow skin, and a head of a peculiarly conical shape owing to a remarkable projection in the neighbourhood of the posterior fontanelle. He had a receding forehead and chin and a thick crop of coarse black hair. His chest was narrow and covered with hair. His legs were thin, straight, and also very hairy. There was marked pes planus and his feet turned outwards. In short, there was little noteworthy about him beyond the fact that his cranial peculiarities were the reverse of those found in the subjects of rickets and that his general appearance suggested to the most casual observer a lack of the average amount of intelligence. He

was, however, not only able to get his living but also to save a little money. His father died some few years back from pneumonia. His mother, who is alive and well, states that he was weakly from birth. He crawled on the floor till he was 18 months old, at which age he walked. He had no trouble with his teeth and no fits. At eight years of age he was said to be in "a decline." From this union five children resulted. The first child was born in May, 1887, in the same cottage as the illegitimate child. In September, 1887, the family moved to an old-fashioned farmhouse originally built for people in better circumstances, situated about a mile from their previous residence and 50 feet from the top of a hill which rises gradually to 300 feet above the sea level on its south-eastern face. The house stands on the Wealden formation that is known as the Ashdown sand, this bed being here represented in its entire thickness. The mother states that the symptoms which subsequently became so familiar to her were present in the first child after her marriage at the time of her changing houses. Of this, however, there is no evidence beyond the woman's statement, though, as will be seen, it is certain that the fifth child of this marriage showed signs of rickets at the age of five months. The first child was suckled for the first three months of his life and then fed mainly on condensed milk, though occasionally cow's milk was given instead. This child at the age of three years presented a picture of advanced rickets such as is seldom seen beyond the wards of a hospital in a large town. He was emaciated to an extreme degree and quite helpless. He never walked at all and he died before he had reached the age of four years from an attack of bronchitis. The second child, a female, was born in 1888 in the same farmhouse, and first walked when two and a half years of age. At four and a half years of age she was a dark, swarthy child with a large square head, beaded ribs, pigeon breast, large swollen epiphyses and marked genu valgum. She had been fed at the breast for the first 12 months, bread sop being given in addition. The third child, a male, was born in 1890 in the same farmhouse. At three years of age he was unable to walk, but sat and crawled in the manner usual to a rickety child. The fontanelle was unclosed. The epiphyses were large. He had not cut all his teeth. The tibiæ were bending outwards. He had a "pot belly," beaded ribs, and pigeon breast. He was fed in the same way as the first child. The fourth child, a male, was born in 1891 in the same house. At two years of age he was just beginning to crawl about and the usual accompanying curvatures were commencing in the radii and tibiæ. The teeth were very backward. There were the rickety chest, the pot belly, and, in addition, a marked dorso-lumbar kyphosis. The fontanelle was widely open. He was fed in the same way as the second child. The fifth child, a female, was born towards the end of 1892 in the same house. At five months of age she showed well-marked beading of the ribs, though no other signs of the disease were present. This child did not subsequently present such a picture of the disease as did the others. The eldest of these five children undoubtedly suffered the most severely, then the third, then the fourth, then the second, and then the fifth. Unfortunately none of them was seen by me at birth and there is no evidence as to the date of the commencement of the disease.

The husband in June, 1893, committed suicide by hanging himself in a barn. The woman then went with her family to live in one of a long row of cottages situated about midway in point of distance between her two previous residences, on a soil of similar formation to that in which her previous house stood. In 1896 she gave birth to another illegitimate child, a female, the father being a strong young labouring man well known to me. This child, now two and a half years of age, is a sturdy little girl presenting no signs of rickets. She ran well at 16 months and began to cut her teeth at seven months. She was, like the others, fed at the breast for three months, and was then given the bottle, which contained sometimes cows' milk and sometimes condensed milk and water. Shortly after this the woman married another labourer and in 1898 she gave birth to a female child who is now nine months old. This child, though pale and puny, shows as yet no sign of rickets. She is already suffering from an ailment supposed to be due to commencing dentition, though there are no teeth yet discernible. She sits up well and likes to "feel her feet." Her food has been the same as that of the second illegitimate child. The mother, though it is true that her answers do not always tally, is certain that the feeding of her different families has never varied very much. Her circumstances, too, have been apparently much the same all through. She asserts most positively that she was no poorer toward the close of her union with her first husband than at the commencement, though she was naturally more tied having so many children unable to run alone. There can be no doubt that she was vastly better off in the matter of house accommodation during the period of her residence in the farmhouse, which was large, dry, and airy, than she was subsequently when she lived in the small cottage. Her own health was excellent—she had never ailed anything. The family that preceded her in the farmhouse where the five youngest rickety children were born is well known to me and all its members are well and strong.

Rickets is a disease by no means common in the neighbourhood, the climate of which (for England) is warm and dry. During several years of practice among the poor of the district only a few isolated examples of the disease came under my notice, and I certainly did not see another case approaching in severity that of the first child. Though the district is an entirely agricultural one the poor as a rule give their children but little cow's milk, less indeed in my opinion than do the poor of the towns in which I have lived where milk is vended from door to door. The children are invariably suckled as long as possible, and when the mother's supply fails bread-sop made with water is the usual substitute; to this is sometimes added condensed milk and less often cow's milk finds its way into the mixture. In this opinion that the children of the poor in rural districts are worse off in the matter of food than are those of the town dwelling poor I am supported by Dr. Palm who in an article on the Etiology of Rickets[1] writes: "The English town-bred rickety child and its mother are as a rule better fed than the healthy child and wife of the agricultural labourer."

This case suggests itself as an instance of Mill's oft-quoted joint method of agreement and difference. We are apparently presented with five instances of the presence of a phenomenon (viz., rickets) which have only in common the presence of one other circumstance (viz., the paternity of the first husband) and three instances of the absence of the phenomenon which have in common only the absence of this circumstance. Hence we would be inclined to conclude with von Rittershain[2] that there is a causal relation between the father's health and the disease in the children. The case, however, does little more than serve as an illustration of the dangers inseparable from such a method of inquiry, or rather of its unfitness to deal with such complex problems as daily present themselves to us. It is obvious that even if this woman were to continue multiplying instances of this kind we could never have the assurance that they agreed in the presence and absence of the single circumstance of the first husband's paternity and nothing else. We have only to conceive it possible that some change in the mother's health may have occurred at or about the time of her first marriage and so have affected her offspring and the case against the father falls at once. In view, however, of the order in which these children were affected as regards the severity of the disease, and of the certain fact that under very similar conditions the mother brought up children free from rickets on a diet very similar to that which she gave to the affected ones, and bearing in mind that somewhat similar cases have been observed[3] we are forced to conclude that the usual theories which obtain in this country as to the etiology of the disease do not cover all the ground, and we are reminded that other theories of causation have been formulated at Vienna and Berlin. May not these assumed factors in the production of rickets—bad food and, what is probably of much more importance, want of sunshine—operate with greater force on children who have inherited from either parent a constitution unduly prone to be affected by their influence? And may it not be that in crowded cities, where the immediate causes of the disease (whatever they may be) must certainly very largely prevail, a less amount of such an inherited susceptibility is required in order that the phenomena of the disease may be provoked? Thus the hereditary element in causation would be least patent to those who have the

[1] The Geographical Distribution and Etiology of Ricketts, Practitioner, vol. ii. 1890, p. 334.
[2] Die Pathologie und Therapie der Rachitis, Berlin, 1863, p. 66.
[3] Vogel, Diseases of Children, 1884, p. 656.

greatest facilities for studying the disease. That the susceptibility to the disease is transmitted from parents to their offspring rather than the disease itself is rendered still more probable by the experience of American observers that rickets is more prone to attack the children of aliens than those of parents who are indigenous to the soil. Haven of Boston[4] noted that it was most prevalent among the coloured population and that the majority of white rachitics of foreign ancestry were born of parents who came from the south of Europe where the disease is by no means common. Thus emigrants from the "sunny south" would appear to transmit in more uncongenial climes the necessary susceptibility to their offspring. Whether this be ceded or not we are still far from being able to say why the assumed causes of rickets act with such signal partiality and why it is that in other quarters of the globe—such as New York, where the conditions under which the children live cannot be so very dissimilar from those that obtain here—the disease is said to be so strikingly less frequent.[5]

Windsor.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A BICEPHALIC FŒTUS.

BY W. C. F. SMITH, L.R.C.P. EDIN., L.F.P.S. GLASG.

THE illustration which is reproduced from a photograph shows a bicephalic fœtus which was born on April 6th, 1899, after a natural labour and at full term. The mother

entirely recovered from the pregnancy. I attended her in her previous confinements, when labour was quite normal and the children are living. As will be seen, the fœtus has two distinct heads and necks well formed.

Necropsy.—At the post-mortem examination there were found two separate and distinct heads and necks, fusing at the level of the shoulders into one trunk which was, however, marked by the existence of two spines, lying some little distance apart, and uniting at the sacrum, which was single. There was no other abnormality of the skeleton, and the arms and legs were normal in number and conformation. The thoracic cavity was partially divided into three compartments by the projection forwards into it of the two spinal columns, the interval between the latter being bridged across by soft tissue. In the central compartment of the three was the single and normally formed heart, and the two lateral were occupied by normal lungs. The arch of the aorta was normally formed but gave off arterial trunks to both necks. The condition of the specimen at the time of the post-mortem examination did not admit of further examination of the arterial system. There were two separate and complete œsophagi. The most remarkable feature disclosed by examination of the abdominal cavity was an extensive reduplication of the alimentary canal. The two œsophagi each led into a separate stomach. The right of these was a cul-de-sac and was hour-glass in shape. The left was small but otherwise normal. The intestine leading from the left stomach was normal in itself, but was accompanied throughout the greater part of its extent by an imperfect gut which fused with it one inch above the ileo-cæcal valve, the latter as well as the large intestine being normal in every respect. This small intestine of the right side lay side by side with the other below the duodeno-jejunal flexure. Above that level it was represented by a cul-de-sac extending in the direction of the pyloric end of the right stomach and united to it by fibrous tissue. There was a separate spleen on each side of the abdomen, one in connexion with each stomach.

Halifax.

[4] THE LANCET, Feb. 20th, 1886, p. 367.
[5] Practitioner, vol. ii., 1890, p. 273.

NOTE ON A CASE OF PERFORATED GASTRIC ULCER IN A MAN.

BY S. L. CRAIGIE MONDY, L.R.C.P. LOND., M.R.C.S. ENG.

THE following case shows the great difficulty in diagnosing gastric ulcer in the absence of a history of gastric symptoms, and also proves that perforation is not always followed at once by collapse.

I was called to see a man, aged 42 years, at 1.45 A.M. on July 13th. When I saw him he was suffering from very severe pain in the epigastrium. He said that he had eaten a heavy supper consisting of fried fish and plums and had had a pint of beer. He was suddenly seized with the pain at 12.45 A.M. and he forced himself to vomit to try to obtain relief. The vomited matter consisted of what he had had for supper. There was extreme tenderness over the abdomen, most marked over the epigastrium, but the abdomen was not distended. The pulse was of fairly good tension and numbered 94 in the minute. The temperature was 101·2° F. The bowels had acted at about 8 A.M. on the previous day and had been regular "every day of his life." He had two or three sudden twitches of pain in my presence which caused him to cry out and to draw his knees up on his abdomen. Taking the case to be one of acute gastritis I put the patient on the following mixture—one and a half drachms of bicarbonate of sodium, one drachm of carbonate of bismuth, one drachm of solution of opium, with mucilage of tragacanth in suitable quantity and water to six ounces, one ounce to be taken every two hours for the first two doses and then one ounce every four hours. The pain still continued very severe and at 4.20 A.M. I was again called to see the patient. I then found him in much the same condition as before, with a temperature of 102°. I ordered hot fomentations for the abdomen and gave glycerine of belladonna to be painted on where the pain was and also a one-drachm glycerine suppository to get the bowels to act. There was one action of the bowels after this, but no relief from the pain. The patient was seen again at 9.40 A.M. The abdomen was then somewhat distended and there was a good deal of tympanites, but no coils of intestine were visible on the surface. The pulse was then 84 and the temperature was 94°. He was again visited in the afternoon and was then suffering less pain, which was doubtless due to the opium, but he seemed on the whole better. The mixture was repeated. At 1.30 A.M. on July 14th a messenger came to say that the patient was much worse.

He was then suffering very much pain and he said that he felt that if his bowels were opened he would be better. It was therefore agreed to give him a simple enema, but before it could be prepared he suddenly became comatose and died in a quarter of an hour. Just before he became comatose he said that he "felt as if he were full of wind but could not bring it up."

A post-mortem examination was made in the afternoon. On opening the abdomen it was at once seen that there were large flakes of lymph all over the peritoneum. On the anterior surface of the stomach near the pylorus was an ulcer which had perforated. The ulcer measured half an inch by a quarter of an inch and was a quarter of an inch deep, conical, and with smooth edges. The portion of the stomach wall for from three-quarters of an inch to one inch around was thickened, tough, smooth, and discoloured. The ulcer was thus chronic. It has since been ascertained from his employer that he had complained of "pains in the stomach" for some days before.

Shaftesbury-avenue, W.

A CASE OF RARE OBSTETRIC ACCIDENT.

By H. MALLINS, M.B., M.Ch. Dub.

ON July 29th, 1899, I was sent for to attend a woman, a primipara, with reference to whose case I was rather anxious, as she had early in her pregnancy exhibited a tendency to eclampsia. On my arrival at her house I was told that she had already had two slight "stoppages." Finding the os to be fully dilated I gave her chloroform and proceeded to apply forceps. The blades slipped over the head with the greatest facility, but when it came to locking the handles that of the upper blade refused to co-apt with its fellow notwithstanding the most careful manipulation. After several failures I decided to withdraw the forceps and re-apply them. The lower one came away easily, but on attempting to extract the upper one I found it impossible to do so for more than a certain distance. On seeking for the cause of the difficulty the tip of the blade could be felt to be wedged between the head and a much smaller body of an equally firm nature. Any traction on the handle only served to bring this smaller body lower down and increase the impaction of the blade. As the pains were strong and regular and the head was steadily descending I determined to leave things to nature and await the solution of the puzzling phenomenon, doing nothing beyond guiding the handle of the imprisoned blade in the right direction. As the delivery of the upper shoulder and arm followed that of the head the tip of the blade came into view resting in the bend of the elbow, the hand and forearm having through some extraordinary mischance slipped through the fenestrum of the blade. As might have been anticipated the arm was for some days somewhat deficient in power as a result of the accident, but it is steadily improving. Never having heard of such a case I wrote to Dr. G. E. Herman, the experienced author of "Difficult Labour," to ask if he had ever met with a similar one. In a courteous reply he stated that he had never met with, or heard of, such a case. The rarity of the case may therefore justify its publication.

Watton, Norfolk.

TIVERTON INFIRMARY.—The new wing of the Tiverton Infirmary, which has been erected to celebrate Her Majesty's Diamond Jubilee, was formally opened by Sir Stafford Northcote, M.P., on August 10th, in the presence of a large gathering. The new building comprises two wards of two beds each for male and female patients, an operation room, nurses' room, waiting-room, &c. The cost was about £1550.

A NEW LUNATIC ASYLUM.—At the quarterly meeting of the Breconshire County Council held on August 4th it was stated that the estimated cost for the new asylum for the counties of Brecon and Radnor which is to be erected at Newent would be £140,000. The share of Breconshire would be £98,314, and towards this £29,000 would be contributed by Monmouthshire. The council decided to negotiate a loan for the required amount to be repayable over a period of 30 years.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas eb morborum et dissectionum historias, tum aliorum tum propriae collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

TWO CASES OF PAPILLOMATOUS CYSTS.

(Under the care of Mr. PEARCE GOULD.)

PAPILLOMATOUS cysts of the ovary are usually derived from the paroöphoron and that was their origin in the following two cases which illustrate well the tendency the intra-cystic growth has to pierce the cyst wall and cause ascites and to give rise to papillomatous growths on the outer surface of the cyst, of the ovary, the broad ligament, and the neighbouring structures. As in these cases, there is always a great probability of these growths being diagnosed as malignant either with or without a laparotomy, but they are in their essential nature absolutely benign and if the primary disease is completely removed they do not return. In these cases the warty masses were almost limited to the broad ligament, though in the second case one mass was found on the rectum; often they are widely scattered over the peritoneum; these secondary growths wither and disappear when the primary tumour is removed. When, as occasionally occurs, these growths get into the space between the two layers of the broad ligament and spread on to the pelvic wall their removal is very difficult and may be impossible. Sometimes the spread of the papillary masses over the peritoneum is caused by the bursting of the cyst. As Pfannenstiel[1] points out, malignant growths of the ovary may present a papillomatous appearance, but these are to be distinguished from the true papillomatous growths of the paroöphoron. The ascites which is so markedly present in cases of papillomatous cysts disappears at once when the growth is removed and no drainage of the peritoneum is required. For the notes of the first case we are indebted to Mr. J. B. Davey, and for the notes of the second case to Mr. Blandy.

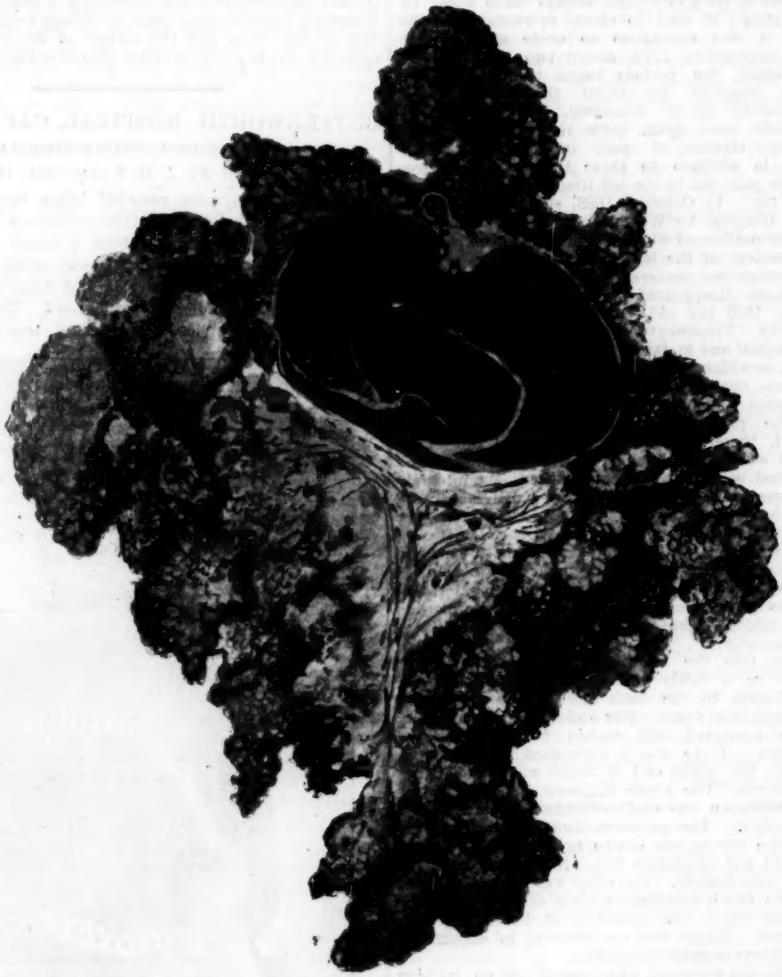
CASE 1.—A married woman, aged 47 years, was admitted into the Middlesex Hospital on Oct. 15th, 1898. In her past history there was nothing of importance to record. She had had five children, the youngest of whom was 18 years old, and they were all in good health. Her illness began at the beginning of the previous April—that is, about six months before her admission into the hospital—with pains in the right side which she described as shooting and paroxysmal in character, having no definite relation to meals. The pains were felt by night as well as by day and they seemed to shoot into the right arm and right leg, but they were never at any time very severe. After about a fortnight she began to vomit and she also noticed some swelling of the abdomen which steadily increased. The attacks of vomiting, like the pains, occurred during both day and night and were not relieved by medicine. As a rule, the vomit consisted of pale yellowish fluid, but occasionally it was of a dark-brown coffee colour. As the swelling of the abdomen continued to increase the patient went into the hospital at Eastbourne and there laparotomy was performed and a quantity of reddish serous fluid was drawn off; at the same time a growth was seen at the brim of the pelvis which was compared to a number of white currants and the peritoneum was described as being hyperæmic and villous. No attempt was made to remove the growth and the abdomen was at once closed. After this operation the abdomen was for a time smaller, but soon it began again to increase rapidly in size. Menstruation continued to be regular and there was no difficulty in micturition, but constipation was throughout a troublesome symptom and the bowels were only relieved by purgatives.

On her admission to the Middlesex Hospital the patient was found to be somewhat emaciated and to have numerous

[1] Archiv für Gynäkologie, Band xlviii., 1895.

venous stigmata on the cheeks. There was a uniform distension of the abdomen and in the mid-line there was a scar two inches long which marked the site of the former operation. On percussion a resonant note was obtained in the mid-line of the abdomen from the sternum to about two inches below the umbilicus, and for about the same distance on each side of this, but over the lower part of the front of the abdomen and over the flanks there was complete dulness which varied in its distribution with the position of the patient. A well-marked fluid thrill could be obtained. The circumference of the abdomen at the umbilicus was 34½ inches. The lower edge of the liver could not be felt; its dulness, which was continuous below with that of the abdomen, the uterus and a similar but less distinct mass could be felt on the right side. The patient vomited frequently during the first few days after her admission to the hospital and she was at times very collapsed, but on Oct. 19th and 20th she seemed to be considerably better.

On the 20th she was anæsthetised and the abdomen was opened by an incision between the umbilicus and the pubes; it was four inches in length and slightly to the left of the middle line. On opening the peritoneum a large quantity of clear yellow fluid escaped and more of this was removed with sponges; a large villous growth looking somewhat like frogs' spawn was then seen completely filling the pelvis and in order to deal adequately with it the original incision through



Papillomatous ovary. Section of tumour in Case 2.

reached upwards to the level of the fourth intercostal space. There was some tenderness on each side of the abdomen about midway between the umbilicus and the anterior superior spine of the ilium, but no tumour could anywhere be felt. The abdominal veins were not enlarged and there was no œdema present. A vaginal examination showed that the uterus was somewhat retroverted and that the cervix was pushed forward so that there was only an interval of about an inch between it and the pubes. The urine was acid and its specific gravity was 1022. It contained a trace of albumin and on standing it deposited phosphates; neither blood nor sugar was present. After the bowels had been thoroughly relieved by means of enemata a firm and slightly tender mass could be felt near the brim of the pelvis to the left of the abdominal wall was prolonged upwards and downwards. The growth was then found to consist of two masses growing from the broad ligaments which had become firmly adherent to the bladder and rectum. The parietal peritoneum was deeply injected and that over the rectum was considerably thickened. The adhesions to the neighbouring organs were carefully separated and each of the masses was separately removed, together with the broad ligaments. Two or three vessels required ligatures, but there was very little oozing of blood from the surface which the tumour had occupied. The layers of the abdominal wall were then sutured together and the wound was dressed with cyanide gauze and collodion, no strapping or bandage being used. The patient was somewhat collapsed for a few hours after the operation, but

under the administration of restoratives she soon improved. On the 22nd she was much better and eventually made an excellent recovery and left the hospital on Nov. 12th.

The tumour consisted of papillomatous cysts; in several places the papillomatous growth had burst through the cyst wall and similar warty growths were sprouting in all directions from its surface.

CASE 2.—A married woman, aged 39 years, was admitted to the Middlesex Hospital on Feb. 9th, 1899. Her illness dated from her first and only confinement in September, 1878. After this confinement, which was difficult and prolonged, the patient was subject to attacks of pain in the sacral region which came on at intervals of two or three months and lasted for two or three hours at a time. The pain was relieved on lying down and always made worse by standing or sitting; it used to shoot upwards into the abdomen and it was sometimes so acute as to cause vomiting. In September, 1879, about two months after weaning her child, the periods began to be excessive and remained irregular for about three years, but gradually improved under treatment. From 1882 to 1888 the periods were again quite regular, but during this time the attacks of pain in the back still continued and in addition to these there was now frequently an acute pain felt in the left iliac fossa and shooting down the left leg. In October, 1888, she became an inpatient at the Hospital for Women, Soho-square, and there an operation was performed which, according to the patient, consisted of removal of the left ovary and of an ovarian tumour. No symptoms occurred after this for about two years. The pains disappeared and menstruation became regular, but in 1890 the old pains again returned with increased severity. Treatment was again carried out at the Soho-square hospital and in January, 1893, another operation was performed, at which, according to the patient, a tumour was found but not removed. About two years after this the abdomen began to increase in size and at the same time the patient noticed that she was losing flesh. In 1896, therefore, she again went to the Soho-square hospital where the abdomen was tapped, and since that time she had been tapped about 20 times, the intervals between the operations becoming shorter until it became necessary for her to be tapped about once in every six weeks. The fluid was quite pale at first but later it was sometimes claret-coloured. The greatest quantity removed by one operation was 32 pints. The pains still continued and were now again accompanied by menstrual irregularities, there sometimes being an interval of three or four months between the periods. The bowels throughout the illness acted fairly regularly.

On admission into the Middlesex Hospital the patient was found to be a fairly well-nourished woman. She complained of pain in the back and in the neighbourhood of the right iliac fossa. The abdomen was uniformly enlarged and measured 42½ inches in circumference at the umbilicus. There was a pigmented linear scar in the middle line, the upper end of which was three inches below the umbilicus. The whole abdomen was dull on percussion and fluctuation was easily obtained. There were no tumours to be felt. The perineum had been extensively ruptured and the uterus was drawn upwards so much that the cervix could not be plainly felt. No tumour could be felt by vaginal examination. The urine was acid, its specific gravity was 1010, and it contained a trace of albumin. The amount of urine which was passed in 24 hours was only about 18 ounces. There was no difficulty in micturition and the bladder was completely emptied.

On Feb. 16th the abdomen was opened by an incision four inches in length, commencing two inches below the umbilicus. The peritoneal cavity was distended with clear straw-coloured fluid, which was allowed to drain off, and measured 432 ounces. The intestines were small and collapsed and on pushing them aside a large cauliflower-like mass situated between the bladder and the uterus was found to be occupying the greater part of the pelvis. There was a broad band of tissue passing from the sigmoid flexure over the top of the growth to the fundus of the bladder which obscured the relationship of the parts, but when this was divided the tumour was found to have a relatively narrow attachment to the left broad ligament. The pedicle was therefore transfixed and tied in two halves and the tumour was removed. A similar mass of growth of the size of a cherry and attached by a slender pedicle to the rectum was excised after ligature of the pedicle. The rest of the peritoneum was free from secondary growths. The layers of the abdominal wall were separately sutured and a cyanide gauze and collodion dressing was applied. For a few days after the operation the patient complained of pain and there was also some distension of the abdomen, but she stated that both of these symptoms had always followed the tapping operations. On the 20th the bowels were freely opened by repeated doses of 20 grains of sulphate of sodium administered every hour and after this the abdominal symptoms almost entirely disappeared. On the 24th the stitches were removed; the wound had quite healed and from this time the patient made rapid progress and was discharged well on March 16th.

The tumour consisted of a mass of warty growths measuring 10½ inches in greatest circumference. On section the mass showed an enlarged ovary containing a single cyst. Large branching papillomatous growths sprang from the outer surface of the ovary and the surface of the broad ligament, sprouting out in every direction (see illustration).

BUTTERWORTH HOSPITAL, CAPE COLONY.

A CASE OF MULTIPLE FIBROMA.

(Under the care of Mr. J. H. NANKIVELL, House Surgeon.)

THE interesting case recorded below is doubtlessly an example of scar keloid. In this condition a mass of fibrous tissue forms where there has been a breach of surface. It is extremely probable that all the cases of the form of keloid described by Alibert are really derived from small scars and are, therefore, examples of scar keloid. The condition to which Addison[1] applied the name of true keloid is now

known as "localised sclerodermia." No definite cause has ever been proved to be responsible for the overgrowth of a scar which results in the formation of a keloid, but indications are not wanting that the cause is microbic. Keloid practically never arises in wounds which have healed by first intention. Another and more valuable fact is that in certain parts of the world there is a special proneness for all scars to undergo hypertrophy. A very interesting example of this was mentioned by Mr. Golding-Bird.[2] A young English officer in British Central Africa received two shot wounds in

[1] A Collection of the Published Writings of the late Thomas Addison. New Sydenham Society's edition. p. 169.

[2] THE LANCET, April 9th, 1898, p. 998.

the arm and when he returned to England each scar had developed into a well-marked keloid, and it is very curious that in the district where he was when the wounds were inflicted all scars were liable to undergo this change and the native warriors availed themselves of this peculiarity to adorn their faces with unsightly lumps. Coloured races seem to be especially prone to these excrescences. The same condition would appear to hold good in Australia judging by some illustrations in Spencer and Gillen's "Native Tribes of Central Australia" (Macmillan and Co.).

The accompanying illustration is reproduced from a photograph of a native girl whose ears are interesting. The full symmetry of the disease was not discovered until she was on the operating table. A rope of fibroma an inch in thickness extends the whole length of the sternum, and wherever she has been cut by her native adorners fibroma has occurred. The girl, who was about to be married, declined to have the chest and abdomen photographed. Incipient fibromata could have been counted by the hundred upon her. It is no doubt a case which will come under future observation.

Reviews and Notices of Books.

A System of Medicine. By Many Writers. Edited by THOMAS CLIFFORD ALLBUTT, M.D. Cantab., F.R.C.P. Lond., F.R.S., &c., Regius Professor of Physic in the University of Cambridge. Vol. VII. London: Macmillan and Co. 1899. Pp. 937. Price 25*s*.

PROFESSOR CLIFFORD ALLBUTT is now approaching the end of his labours in editing what has been proved to be the most valuable collection of monographs yet published. The next volume completes the "System" and we are informed in the preface that it is already "in revised proof." None of the possessors of the previous numbers will grumble that the work has exceeded by two volumes the space of the former estimates. The articles have as a whole been so excellent that it would have been a great loss to the medical world had any of them been omitted or curtailed. The volume now under consideration contains a number of papers on the Diseases of the Nervous System.

The first section deals with Diffuse Diseases of the Spinal Cord. Dr. Frederick Taylor writes on Myelitis, Acute and Chronic. The term "myelitis" broadly means "inflammation of the spinal cord," but though pathologically the subject of inflammation could be reduced to moderate limits the clinical results of myelitis in different cases are so varied that the diseases which may be regarded as forms of myelitis make a considerble number. Dr. Taylor confines his article to those forms of myelitis in which the systems or tracts of the cord are not specially represented, in which the lesions are not systematic, and which, in contradistinction to limited, may be called diffuse. The "diseases of systems" (to translate literally from the German writers) are described under their respective titles by other writers. The author in writing on the etiology of acute myelitis lays stress on the bacteriological pathology of the disease and is inclined to doubt "cold" as a cause of the condition, suggesting that cold acts by depressing the vitality of the spinal cord, thus rendering it liable to the attacks of bacteria or toxins. A good account is also given of acute disseminated myelitis. The various points in diagnosis are well described.

The next paper is by Dr. Andrew H. Smith on the Caisson Disease, a series of symptoms which have only been studied since new methods of engineering by compressed air chambers have been adopted. The article is brief but contains most of what is known of the effects of compressed air upon the human body.

Next follows a short contribution by Dr. F. E. Batten on Hæmatomyelia. This condition was at one time considered to be secondary to a primary myelitis, but the occurrence of primary hæmorrhage into the spinal cord has now been fully demonstrated. Dr. Batten has evidently made a careful study of the literature of this rare condition and a useful summary is the result.

Limited Diseases of the Spinal Cord are divided into Scleroses and Nuclear Diseases. Under the former heading are eight papers and under the latter three. The first is by Dr. Risien Russell on Disseminate Sclerosis, which the Editor would prefer to be named "insular sclerosis." Dr. Russell rightly draws especial attention to the difficulty of diagnosis, since some types of the disease are very similar to hysterical conditions, and a mistaken diagnosis would lead to most grave errors in treatment. He also lays stress on the fact that occasionally the initial symptoms may entirely pass off to return with like abruptness at some subsequent period; or, again, without entirely clearing up they may diminish and remain in abeyance, it may be for years. The following passage is worthy of note: "The physician who takes a grave view of such cases at the onset is for a time, for years it may be, regarded as having made a mistake in diagnosis; while those who regard the case as purely 'functional' or 'hysterical' are lauded for their acumen. But those experienced in such cases can afford to allow others whose views differ from theirs to have this brief period of triumph. ..... After an absence, perhaps even for years, symptoms return without obvious cause. ..... Once fully established the disease progresses with unerring certainty to death. ..... Yet even at this advanced stage of the disease many of the classical symptoms of disseminate sclerosis are wanting and in their absence the inexperienced, while no longer doubting the organic nature of the disease, find it difficult to reconcile the picture before them with that of classical disseminate sclerosis and with their own experience of classical cases." Dr. Russell's description of the clinical course of the disease is most lucid. A few remarks on "Pseudo-sclerosis" conclude a most valuable contribution to our knowledge of nervous diseases.

The article on Tabes Dorsalis is jointly written by Dr. Ormerod and Dr. Mott, the former dealing with the clinical and the latter with the pathological aspect. Both authors give us a large amount of information. The illustrations demonstrating the morbid anatomy are particularly good.

Sir T. Grainger Stewart writes on Spastic Paraplegia, Friedreich's Ataxia, and Hereditary Cerebellar Ataxia.

Four forms of Spastic Paralysis are described: 1. Simple Primary Spastic Paralysis, sometimes called lateral sclerosis, the typical form of the disease. 2. Primary Spastic Paralysis, complicated with symptoms indicative of other lesions of the cord—namely, (*a*) with muscular atrophy (amyotrophic lateral sclerosis, Charcot's disease); (*b*) with ataxia (combined lateral and posterior sclerosis, ataxic paraplegia; (*c*) pellagra; and (*d*) Putnam and Dana's combined sclerosis of the lateral and posterior columns. 3. Spastic Paralysis, secondary to pre-existing lesions, (*a*) of the cord and (*b*) secondary to intracranial disease. 4. Functional or Hysterical Spastic Paraplegia. Sir Grainger Stewart has succeeded in compressing into a comparatively small space a large amount of practical information.

Dr. M. Allen Starr contributes an interesting account of Syringomyelia, both the clinical and pathological sections being equally well written. The subject of Amyotrophic Lateral Sclerosis is considered by Dr. C. E. Beevor and a few words on Senile Paraplegia by the Editor complete the section dealing with scleroses.

Passing to Nuclear Diseases the first paper is by Dr. Allen Starr on Poliomyelitis Anterior Acuta. The two modes of onset of the disease are accurately described and the pathology is most carefully given. The more modern theory is adopted that in this condition there is an acute inflammatory process similar to that in general myelitis,

although due attention is given to the contention that the disease is a degeneration limited exclusively to the anterior cells. A hæmorrhage into the anterior horn, it is mentioned, or a thrombosis of one of the branches of the anterior spinal artery has been supposed to be the lesion in the cases which begin suddenly without fever, but no actual observations can be found to support this theory.

The next two articles, on Poliomyelitis Anterior Chronica and Bulbar Palsies, are by Dr. Beevor. The difficult matter of diagnosis is well dealt with, stress being laid on the grouping of the affected muscles as aiding to determine whether the atrophy is idiopathic or due to spinal lesion. Dr. Beevor had a difficult subject to describe in writing on bulbar palsies but he has succeeded admirably; although his first table of varieties appears somewhat formidable, yet his clinical classification is all that can be desired.

Under the heading Diseases of the Brain are no less than 16 papers. In a somewhat lengthy article Dr. Leonard Hill discusses the Experimental Pathology of the Cerebral Circulation. Our knowledge on this subject has so expanded during recent years that it is no wonder that Dr. Hill was unable to compress his subject into a smaller space. It is not a subject that can be curtailed and the author has given us an essay that adds considerably to the value of the present volume. After a few words on cerebral pulsation and the cerebro-spinal fluid he proceeds to discuss the principles of the cerebral circulation, describes, as far as words can, the methods which are adapted to estimate intracranial pressure, and in dealing with the vascular nerve-supply he shows that the splanchnic vaso-motor mechanism is of overwhelming importance in maintaining the cerebral circulation. Dr. Hill denies the existence of simple hyperæmia of the brain as a pathological state, but has much to say about cerebral anæmia and gives a useful summary of its causes and symptoms. The Regional Diagnosis of Cerebral Disease is in the capable hands of Dr. Ferrier who deals with the subject almost entirely from the clinical standpoint. In a "System of Medicine" this is as it should be and the article is thus made a very valuable one for reference. Dr. Ferrier has spared no pains to render his contribution as complete as possible. Together with the bibliography it occupies over 120 pages. It is impossible to deal adequately with such an elaborate monograph in the space at our disposal, but we can only express our opinion that it is one of the best of the many excellent articles which have appeared in Professor Clifford Allbutt's "System." Each region of the brain is considered separately, commencing with lesions of the frontal lobe, passing on to those of the motor region, the falciform lobe, the parietal lobe, &c., and terminating with the lesions of the medulla oblongata. The only improvement which we would suggest is that at the commencement of the article there should have been a brief summary of the contents with the number of the page upon which the description of any definite lesion might be found.

Another very noteworthy article is that by Dr. Charlton Bastian on Aphasia and other Speech Defects. The author treats this difficult subject with the greatest ability. Not infrequently observers writing on some abstruse matter presume an amount of knowledge on the part of their readers which by no means always exists. Dr. Bastian explains every point as he proceeds and makes use of no ambiguous or ultra-scientific terms. Commencing with a detailed explanation of the four different kinds of word memory and their seats of registration in definite parts of the cerebral cortex he considers at length the part played by the right cerebral hemisphere in speech functions and disputes the idea that no word-centres exist in the right hemisphere of a right-handed person. His arguments are well set forth and carry a considerable amount of conviction with them. The various defects of speech are then studied, the classification being based on anatomical principles—that is, in relation to the seats of the word-centres—e.g., "lesions of pyramidal fibres go to the motor-centres for speech and writing," &c., five classes of lesions being set forth. Dr. W. S. Colman contributes a short article on Impediments of Speech, and Mr. W. H. Bennett one on Concussion of the Brain.

Dr. Thomas Barlow contributes an article on Tuberculous Meningitis, the section on diagnosis being particularly interesting. He pays considerable attention to the surgical treatment of the affection and sums up as follows: "Experience seems to show that the drainage of a moderate effusion in the lateral ventricles may be followed by excellent results if there be no widespread and severe damage to the brain tissue; and, again, the results of surgery have proved that with proper methods of evacuation the brain may recover from a local necrosis of moderate extent. But the widespread cerebritis and softening which, together with hydrocephalus and an extensive plugging of small vessels, sum up the conditions before us in unmistakeable tuberculous meningitis would appear too formidable a combination for any surgical procedure to remove."

Next follows an article by Dr. D. B. Lees and Dr. T. Barlow on Simple Meningitis in Children. It is divided into two sections: (*a*) Posterior Basic (occlusive) Meningitis or Acquired Hydrocephalus; and (*b*) Vertical and Cerebro-Spinal (non-occlusive) Meningitis, and the results are detailed of the post-mortem examinations in 50 cases of meningitis. The bacteriology is fully described, including the investigations of Dr. G. F. Still as regards that of posterior basic meningitis.

The article by Dr. James Taylor on Occlusion of Cerebral Vessels contains much interesting information on embolism and thrombosis, and the contribution on Certain Affections of the Ear by Mr. C. A. Ballance is likely to prove useful both to physicians and surgeons.

In his article on Cerebral Hæmorrhage Dr. Tooth gives a good summary of our knowledge on the subject. The next two articles are by Dr. Byrom Bramwell on Abscess of the Brain and Intra-cranial Tumours. In the former the section on diagnosis is noteworthy as being remarkably clear and precise. In the latter surgical treatment naturally holds a prominent place, but his summary is certainly not encouraging. He says: "After mature consideration I am disposed to think that in many cases of intra-cranial tumour trephining ought to be performed, although ..... I am fully persuaded, both from my clinical and pathological experience, that the cases in which an intra-cranial tumour can be completely and successfully removed by the surgeon are, relatively speaking, very rare."

Dr. Aldren Turner and Dr. W. Bulloch are authors of an article on Intra-cranial Syphilis, the former writing mainly on the symptomatology of the condition and the latter dealing with the pathology.

The main part of the next article—General Paralysis of the Insane—is from the pen of Dr. Edwin Goodall, Dr. G. H. Savage adding a few, and instructive, remarks on diagnosis, prognosis, and treatment.

Next follows a short article on Infantile Cerebral Degeneration by Dr. Risien Russell and Mr. E. C. Kingdon. The Cerebral Palsies of Children are well described by Dr. James Taylor, and we then pass to a new division of this volume—Other Diseases of the Nervous System. This opens with an article on Disorders of Sleep by Professor Bradbury, and contains many useful hints in regard to the treatment of insomnia.

The article on Epilepsy by Sir William Gowers will be sure to attract attention. The section headed Pathological Definition particularly strikes us as noteworthy. The author contends that nerve force must be ready for instant release in the grey matter of the brain. Whatever its source it must be held in a state of most delicate

equilibrium by the restraint which keeps it unreleased but ready. Further, an extremely slight derangement of the constitution of the nerve tissues may cause a liability to sudden discharges of nerve force, slight and local or severe and wide. "Indeed," says Sir William Gowers, "when we consider what the state of the nervous system must be in its natural function we cease to wonder that many persons become epileptic without any traceable cause and our marvel is that all persons are not liable to such fits."

Dr. G. Ernest Herman gives a most complete account of Puerperal Eclampsia which is well worthy of perusal. The remaining six articles in this volume are all by Dr. Risien Russell—Chorea, The Tics, Paramyoclonus Multiplex, Saltatory Spasm, Head-nodding, and Eclampsia Nutans. They all show evidences of a large amount of study and clinical experience. The work involved even in compiling the copious bibliographies must have been immense and they form a valuable conclusion to a most remarkable volume. Once again we offer our congratulations to Professor Clifford Allbutt on the success which has attended the publication of this "System of Medicine."

Elements of Alkaloidal Ætiology, introductory to the Study of Auto-intoxication in Disease. By A. M. BROWN, M.D. St. And. London: Henry Kimpton. 1899. Pp. 86. Price 2*s.* 6*d.*

THE study of the toxic substances produced by the animal body in health and in disease has been in recent years fruitful in results. The work of Gautier, of Bouchard, and of many others has indicated that auto-intoxication may play a very important part in the production of certain diseases. We regret that we cannot congratulate the workers in so interesting a field on this most recent exposition of their results. Dr. Brown has evidently studied the writings of the French school with great attention and has become an ardent, if somewhat undiscriminating, disciple of their views. He appears hostile to the germ theory of infectious disease, to the study of which he has clearly had not sufficient time to devote adequate attention. The style of his book tends to be dithyrambic and at times obscure, while the ideas are not always clothed in faultless English; indeed, French constructions and idioms abound. The chief demerits of the work lie in the author's apparent incapacity to view a subject from more than one standpoint and in his tendency to rhapsodise over results without any explicit statement of the detailed facts by which they are supported. To rail at bacteriology is not to disprove its facts. The causation of disease is manifold: bacterial intoxications are as scientifically proved as are auto-intoxications and neither the one nor the other can be accepted as taking more than a partial share in pathogenesis.

A Text-book upon the Pathogenic Bacteria for Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D., Professor of Pathology in the Medico-Chirurgical College, Philadelphia, &c. Second edition. Revised and enlarged. London: Henry Kimpton. 1898. Pp. 497. Price 16*s.*

IT is two or three years since we reviewed the first edition of this book in our columns. No radical changes have been made in the present edition, but in many respects it has been improved and brought up to date. In particular, the author has added a considerable amount of detail concerning technique and this has made the book much more valuable for laboratory use. We find no reason for altering the opinion which we formerly expressed as to the merits of the work. It has many points of excellence, and some of its chapters, notably that dealing with tuberculosis, are altogether admirable. We are, however, still obliged to confess ourselves unable to grasp the principles upon which bacterial diseases are grouped into "phlogistic," "toxic," and "septic," and the author vouchsafes no explanation of the classification. We are further constrained to point out one or two errors which should have been corrected in a second edition. On page 97 we find it stated under the description of Gram's method of staining that any basic anilin colour can be used, fuchsin being specifically mentioned. This is not the case. Few of the basic anilin dyes can be used for Gram's method and fuchsin is not one of them. On page 358 we find the astounding statements that anthrax spores "are killed in five minutes in a 5 per cent. solution of carbolic acid, or at least are deprived of their vegetative property in relation to culture media." Further, that the spores are killed "by simple wetting with 1 : 100,000 bichloride of mercury solution." It is notorious that 5 per cent. carbolic acid takes some 24 hours to kill anthrax spores and that (when care is taken at the close of the experiment to neutralise any excess of the salt by means of ammonium sulphide) at least four hours' exposure to a solution of perchloride of mercury of the strength of 1 in 1000 is usually needful to kill the spores. We commend these facts to Dr. McFarland's notice because such manifestly erroneous statements are very serious blots upon a book which in most respects is a valuable one. It is also unusual in a modern text-book to find no reference to Van Ermengem's method of staining flagella, since it is not only easy but unquestionably superior to the methods of Löffler and of Pitfield which alone are here described. But it would be unfair to insist on these and other minor imperfections when the book as a whole is essentially deserving of praise.

THE REPORT OF THE SANITARY COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1897.[1]

CONCLUDING NOTICE.[2]

THE disease from which the young soldier—and under a short-service system most of our soldiers are of course young—dies whilst serving in India is enteric fever. This has now been verified by repeated observations and may be said to have been thoroughly threshed out. Youthful soldiers with a short residence in India mainly supply the material which feeds the annual sickness and mortality attributable to enteric fever in the European army of that country; but the simple recognition of this as an established fact does not help us much as regards the causes of the disease. There must be something over and above youth and recent arrival to account for the prevalence of so specific a form of disease as that of enteric fever unless we assume that a hot climate, fatigue, and auto-infection are capable of accounting for it. The prevalent doctrine, which seems to be based upon a large number of scientific observations, is that enteric fever is a parasitic disease caused by the presence of the typhoid fever bacillus of Eberth and Gaffky. If this be so the bacillus must be very widely distributed in India. The disease may be almost considered endemic there and the investigation narrows itself down to a matter of bacteriolcgical research and an inquiry into the life-history of the bacillus and as to how and by what channels this disease-cause effects an entrance into the human body. Malaria and venereal diseases are terrible sources of sickness and inefficiency among British troops serving in India, but the most fruitful cause of mortality among them—39 per cent. of the total deaths in 1897—is enteric fever. It is a matter which has for years attracted a great deal of attention and has quite recently been adverted to in Parliament. We might, of

[1] Annual Report of the Sanitary Commissioner with the Government of India, 1897, with Appendices and Returns of Sickness and Mortality among European Troops, Native Troops, and Prisoners in India for the Year. Calcutta: Office of the Superintendent of Government Printing, India. 1899.

[2] The first notice was published in THE LANCET of July 29th, 1899, p. 297.

course, strive to decrease the amount of this fever by diminishing the susceptible material—a larger number of matured and trained soldiers might be sent to India in place of the young and comparatively untrained soldiers now serving there. But even then there would remain the very important factor of recent arrival to be overcome and it is, moreover, impracticable on a short military service system to do this. A separate European army for continuous service in India, many people think, might effect the purpose; but there are alleged to be serious political objections to this course, and long service in India, it must be borne in mind, increases the liability to disease and death from other causes than enteric fever.

It is quite clear that the theory of enteric fever being exclusively a water-borne disease has been pushed too far. A partial truth has been taken as if it were the whole truth. It is all very well, of course, if it were only absolutely true, to have a ready-made label, as it were, about the causation of any given malady, and having decided that enteric fever was a water-borne disease to relegate it to that category and turn our whole attention to the water-supply. Enteric fever is a water-borne disease, no doubt, but that it is exclusively water-borne is open to great doubt—in fact, it is not—and a very natural reaction to such an extreme and exclusive doctrine has set in. The whole subject is carefully gone into in the report under review in connexion with the rôle of the soil in the nature and dissemination of the enteric fever bacillus. Speaking summarily the prevalent opinion of to-day, perhaps, is that the bulk of ordinary enteric fever is soil-derived, but that sudden widespread outbreaks are water-borne. The history of most military stations and encampments is the same. In the absence of malaria they are healthy so long as the soil is virgin and unpolluted and properly drained, but they become fouled and unhealthy in time by occupation. If we recollect aright Budd years ago theoretically accounted for the presence and propagation of enteric fever in India by desiccated fæcal soil blown about as dust by the wind and it is quite possible, as some observers have declared to be the case, that the specific bacillus of typhoid fever may be suspended in the air and carried in this way for short distances, and it is perhaps even more probable that flies may convey it. In saying this we are quite aware that there are a far larger number of microbes in a given volume of water than in one of air and that pathogenetic microbes cannot usually be found in the air; they soon lose their vitality on all-round exposure to the atmosphere and sunshine, but they may, nevertheless, be carried and protected by particles of suspended organic matter and in that way come into contact with food or fluids, or even effect an entrance directly into the body by being swallowed as dust. All this, as we may well surmise from the Sanitary Commissioner's report, has a bearing upon the dry earth system of disposal and inculcates the care that should be exercised that it is properly and efficiently carried out in hot climates. These annual reports contain a good deal of condensed current literature in regard to enteric fever, but very much still remains to be done in India and elsewhere before we can feel satisfied that we have exhausted the subject of the causes of the great prevalence of this fever in hot climates or, as a matter of fact, before we have even differentiated all the fevers of India one from the other. The matter is one of extreme importance, for the amount of fatality, suffering, and sickness from enteric and other forms of fever is very great, to say nothing of the drain it establishes on the young manhood of this country. Assuming it to be established that the essential cause of enteric fever is a pathogenic microbe, that is only the first step in the inquiry. It is practically futile to relegate it to this cause and stop there. What we all really want to know is how to limit or prevent the spread of the disease. The tendency at the present time is to strive to confer immunity from its attacks by a protective inoculation of those likely to be exposed to them. We have not yet sufficient data on which we can safely predict what is likely to be the result of the practice, but it is an experiment which is well worth trying, for enteric fever is a veritable scourge of our British army in India and indeed of all European and American armies on active service everywhere. We are glad to notice by the way that Major A. M. Davies, R.A.M.C., has been engaged on special sanitary investigations in India and that a brief summary of his conclusions derived from his excellent reports for several stations has been given in the volume under review.

The facts and figures connected with hepatitis and abscess of the liver are fully given at page 55 and following pages of the report. A table shows that the mortality from abscess of the liver in 1897 was 21½ times greater among European soldiers than among native soldiers, while it had been nearly 17 times greater in 1896 and 70¼ times greater in 1895. Although there can be no doubt of the frequent causal connexion of hepatic abscess with dysentery in the case of the European soldier it is noteworthy that native soldiers are even more liable to dysentery than British soldiers. The greater liability of the latter to hepatic abscess must be due, therefore, to the presence of some superadded factor—differences of diet and the use of alcohol on the part of the European soldier in India? Venereal disease figures largely, as we have said. A tabular statement is given of the admission-rate for this class of disease from 1872 to 1897 which shows a more or less continuous rise, especially since the end of 1884; and though there was a fall in the general ratios in 1896 and 1897 the rise in secondary syphilis continued uninterrupted, the ratio of 1897 being the highest on record.

Turning to the section on the native army of India, which need not detain us long, we find that the chief causes of admission to hospital in 1897 were ague and dysentery; the former (ague) caused 41 per cent. of the total admissions. The chief causes of death were pneumonia and remittent fever. Influenza and cholera were less prevalent in 1897. The native troops as compared with the European troops show the susceptibility of the native soldier to pneumonia and respiratory diseases, especially during exposure on field service and in relation to the prevalence of influenza, their almost complete immunity from enteric fever, and the insignificant amount of venereal disease prevailing among them. The death-rate of European troops from enteric fever in 1897 was nearly five times as great as that of native troops from all kinds of fever put together. From this it follows that whatever may be the exact nature of the remittent and continued fevers from which native soldiers died they (and it may also be added the large prison population of native jails) are far less liable to enteric fever than are European soldiers. The disease seems to be more common among the Gurkhas than any other class of the native army, and the Gurkhas may be said to approach nearer to the British soldiers in their habits, diet, use of meat and alcohol, and translation from a comparatively cool and temperate climate to a very hot one, than other troops of the native army.

In the section of the Sanitary Commissioner's report devoted to the jails of India there are some interesting facts given at page 111 which have a very practical bearing on the prevention of pneumonia in a jail population. The efficacy of good ventilation in the prevention of epidemic pneumonia is a fact of the greatest importance and is, perhaps, not as fully known and appreciated as it might be. The Inspector-General of Prisons, Bombay, says that the death-roll from pneumonia in the Hyderabad Jail was so extraordinarily small as to claim some notice. "Surgeon-Captain James Jackson has long held some very clearly defined opinions regarding the causes of jail pneumonia, his prophylactic against which I may sum up in the words, 'lots of fresh air at all times.' With the admirable system for the control of the ventilation which is in existence in the sleeping barracks of the Hyderabad central prison the above officer has found himself in a favourable position for carrying out his theories, and, I think I may add, for showing their thorough soundness."

The following table shows the reduction effected by Captain James Jackson in the pneumonia ratios of the Hyderabad central prison:—

—	Ratios per 1000 of strength.	
	Admissions.	Deaths.
1891-95	32·3	16·33
1896	40·1	8·92
1897	17·2	1·57

Limitations of space compel us to pass over Section V., which is concerned with the Vital Statistics of the General Population, and which deals, among other things, largely as well as lucidly with plague and will well repay perusal.

We have only to say, in conclusion, that we regard the Report of the Sanitary Commissioner with the Government of India for 1897 as very well done; it is an able and carefully prepared official document.

THE LANCET.

LONDON: SATURDAY, AUGUST 19, 1899.

AN index of the fraud which is annually attempted upon the British public and the Revenue is a fairly accurate description of the report of the Principal Chemist of the Government Laboratories upon the work of the laboratories up to the end of the official year. It is due to the public, we think, that such an interesting return should be published; but we believe we are right in saying that this step was initiated within comparatively recent years, in fact soon after the Government laboratories were placed under the direction and control of Professor T. E. THORPE. The returns since published go far to justify the appointment of Professor THORPE as principal of this most important department, but chemists generally will deplore that owing to the onerous duties thus vested in him he can have but little time left for the prosecution of original research, in which direction he has achieved so many marked successes. The Government Laboratories are now the centre of very important Government departmental work—namely, the work in connexion with the Revenue Department, the work in connexion with other Government departments, such as the Board of Agriculture, the Admiralty, the Board of Trade, the Post Office, and the Local Government Board, and finally the work in connexion with the revenue derived from Customs and Excise.

The report upon the work of the laboratories for the year ending March 31st, 1899, has just been published and it contains some interesting facts. Taking the question of the adulteration of food and food products first, which is dealt with under the Food and Drugs Act, we find that although the number of referred samples has been greater during the last year than for some years past, yet the number of instances in which the Government chemists differed from the conclusion of the public analysts is proportionately less than last year. This amounts, it seems to us, to an appreciation of the work of the public analysts and indicates that, on the whole, the public analyst is a competent official and carries out his duties satisfactorily. Curiously enough, however, we do not find a single instance of a sample of a drug having been referred, under this section of administration, to the Government Laboratories. It should be borne in mind that the Food and Drugs Act was designed to maintain the quality and purity of drugs as well as of food, and we are inclined to believe that the provisions relating to drugs are somewhat ignored by the authorities. It is desirable that a high standard should be maintained for drugs as well as for food and further it is important that a drug should be supplied in accordance with the nature, quality, and strength demanded. The annual returns, again, published by the Local Government Board, show that the samples of drugs which are taken for analysis are but an infinitesimal proportion of the number taken under the provisions of the Act. In this connexion we may point out that a new Bill has been passed and is virtually now a new Act in operation. It is clear from the Government Laboratories report before us that the Government have been largely guided by Professor THORPE'S opinion on questions relating to imported dairy products, mixtures, margarine, the use of preservatives and colouring matter in milk and butter, and on standards of purity. We do not think that we shall be far wrong when we say that the Act in the form in which it has passed both Houses and received Royal assent is much in a line with the views of the Principal Chemist of the Government Laboratories. In regard to the question of preservatives and colouring matter in food, Professor THORPE has been appointed to serve on the Departmental Committee which will commence its inquiry next October. Tea and tobacco are dealt with in the Report mainly from the point of view of Customs and Excise, and the examination adopted is a source of considerable protection to the public against fraud. It appears that during the past year 57 samples of tea, representing 1616 packages, were found to contain exhausted leaves or to be mixed with other substances and were therefore refused admission for home consumption. Of 157 samples of tobacco which were taken from manufacturers and dealers 132 were found to be genuine and 26 adulterated. (These figures are taken from the report, but there is evidently an inaccuracy here, for the amount of genuine and adulterated samples exceeds the total number of samples taken by one.) It is satisfactory to note the remark that in no case was there reason for believing that the adulteration had taken place in this country. Several samples of original leaf have been examined which showed an excess of inorganic matter or sand. Legal proceedings have been instituted against tobacco manufacturers for excess of moisture, and penalties have been imposed in 157 cases for adulterating beer by watering, in 36 cases of temperance drinks containing excess of proof spirit, and in 31 cases of a miscellaneous character.

It is reported in connexion with the samples submitted by the Board of Trade that the lime juice and lemon juice submitted for approval have been good in quality. Some specimens, however, proved to contain copper, but we find no remark as to whether any of the samples submitted contained preservatives. We have found again and again salicylic acid in lime juice and in lemon juice. A very interesting and important observation has been made in regard to certain samples of butter which gave reactions for cotton-seed oil. A summary of experiments upon this point is given which prove beyond doubt that the characteristic constituent of cotton-seed oil passes into the milk of cows fed upon cotton cake. Representations which have been brought to the notice of the Government departments of various countries on the continent as to the inferior quality of the butter which is sent to this country and as to the use of preservatives and colouring matter have led to the importation of a supply of improved quality and one which has proved to be free from reproach on the ground of preservatives or of foreign colouring matter. It is interesting to note, also, that the importation of milk from a company in Normandy has now entirely ceased owing to

litigation in the French courts in respect to the so-called secret preservatives which the Government analyst found to consist essentially of formalin, a preservative in common use. An alleged case of blood poisoning due, it was said, to the licking of postage stamps, has engaged the attention of the Government analysts, but on bacteriological cultivations being made both from the stamp-paper and the gum employed no pathogenic organism could be detected in either case. Lastly, a number of medical preparations have been examined for the Army Medical Department, and in several instances these were markedly inferior, while some ether which was supplied for anæsthetic purposes had proved unsatisfactory, and on examination it was shown that the ether had been largely, if not entirely, prepared from methylated spirit, though the bottle bore a label guaranteeing that the preparation was made from rectified spirit. Much of the work of laboratory inquiry this year has been devoted at the instance of the Home Office to the question of lead glazes and the use of phosphorus in the manufacture of matches. The conclusions arrived at have been published as Parliamentary papers, which we have already considered in our columns at some length.

It is evident that the work of the Government Laboratories increases in importance and scope, and the record now given of the past year's work fully justifies the step that was taken on the advice of Professor THORPE to erect larger and more suitable laboratories for this State work. These laboratories were finished exactly two years ago and are admirably equipped, being situated in Clement's Inn-passage, at the back of the Law Courts, so that the once familiar reference to Somerset House in connexion with the adulteration of food and drugs and articles coming under the control of Excise and Customs has now passed almost entirely out of usage.

THE Commissioners in Lunacy in their report for 1898 chronicle an increase of 3114 patients certified as insane during the year 1898. This is the largest annual increase as yet recorded in their reports. The distribution of the increment is as follows. Private patients have increased by 231, criminal lunatics by 15, and pauper patients by 2868. The total number of persons officially known as insane and under the cognisance of the Lunacy Commissioners now amounts to 105,086 in England and Wales, a number sufficiently large to arouse the most serious thought in all interested in this medical and economic question. It will be seen from the report that the major portion of the increase for the year 1898 was in the class of pauper patients—viz., an increase of 3·09 per cent. over that of the preceding year.

The question of the alleged increase of insanity has during the last few years assumed a serious aspect, and the facts and figures which are furnished by the report of the Lunacy Commissioners establish the gravity of the situation. The report contains also a number of collateral facts which serve to throw light on this question and on the whole to add to the seriousness of the outlook. For while the increase in the number of lunatics in public and private institutions has been steadily going on, the recovery rate, on the contrary, has been falling off, being lower for the year 1898 than that of the preceding year and lower than the average of the past 10 years. "The total recoveries in 1898 bore to the average daily number of patients (resident in all institutions) the ratio of 9·06 per cent., and to the total number of patients under treatment that of 7·39 per cent." A steady diminution in the recovery rate appears also during each quinquennial period since 1873, the recovery rate being seen to fall steadily for each such period in Table VIIIa. of the report.

Certain data given in another table are of interest in this connexion. Thus, it appears from Table X. that part of the increase in asylums and licensed houses is accounted for by a diminution in the proportion of lunatic patients in workhouses or under the care of relatives and others, from which it would appear as if a larger number were year by year removed from workhouses or from the care of relatives to be housed in asylums. A detailed consideration of the actual figures given, however—and they apply to pauper lunatics only—shows that the actual numbers maintained in workhouses or with relatives and others continue to increase very slowly, while the numbers in asylums and licensed houses continue to increase more rapidly. The result is that fresh asylums have to be erected every year to provide accommodation and to meet the demand for the serious increase in the number of pauper lunatics.

Some important questions are raised by the data relating to private patients. While the number of private patients in county and borough asylums and in registered hospitals and licensed houses shows a steady increase a very striking decrease *per contra* is recorded in the number of private 'single patients.' The following is the statement made by the Commissioners. "The number of *private* patients in county and borough asylums increased by 180; in registered hospitals by 31; in the metropolitan licensed houses by 19; in the provincial licensed houses by the same number; and in the naval and military hospitals by three; but there was a decrease of 21 in the number of *private* 'single patients.'" It will be remembered that in the report of the Lunacy Commissioners for 1897 the number of these patients was at the time recorded as stationary, and in the report for 1896 the Commissioners adverted to the true significance of this—viz., that there was much clandestine and illicit treatment of lunatic patients in single care and without the necessary certificates. The Commissioners were able in past years to bring solitary instances to light; but there was no doubt about the prevalence of such practices and that the law was being defied by many who pursued the business of receiving uncertified lunatics in private residences. It will be seen from the report in our columns of the proceedings of the Psychology Section of the British Medical Association at Portsmouth on August 2nd and 3rd, that this question has attracted serious attention and discussion and that the evil still appears to exist.

The diminution of the recovery rate of patients suffering from insanity already alluded to must also invite serious attention. Year by year new asylums and hospitals or asylum blocks for "acute and curable" cases are built, with all the means and appliances of hygiene and therapeutics that science can suggest, and year by year comes the plaint—recorded in the annual reports of the medical superintendents of our publi

and private asylums—regarding an increase in the number of unfavourable and hopeless cases among the admissions.

There remains but little to add regarding the lessons to be learnt from the Commissioners' report. The causes of death referred to in Table V. (p. 80) and Table XV. (p. 118, &c.) call for a special note regarding the enormous numbers of patients dying every year from general paralysis of the insane and from phthisis. With reference to the latter—viz., the subject of phthisis in the asylum community—we have already called attention to the means and measures which should be adopted in dealing with this disease as it prevails in asylums.[1]

The Lunacy Commissioners in tabulating the assigned causes of the insanity of patients admitted during the year 1898 advert to the fact that information upon which these tables are based, "being originally obtained from friends or patients or relieving officers, is probably not very accurate, so that, as pointed out in former reports, the tables cannot be regarded as altogether trustworthy." With these reservations we may add that "hereditary influence" is assigned as the cause of insanity in 20·4 per cent. of the males and 25·9 per cent. of the females, while "intemperance in drink" is responsible for 22 per cent. of males and 9·1 per cent. of females. "Old age" as a cause of insanity shows a slight advance for males, while "mental anxiety and worry" shows a slight decline from the return of the preceding year. The report before us is on the whole a serious and weighty document filled with facts and figures of an important character and inviting the anxious and careful consideration of physicians, sociologists, and legislators on the many aspects, medical, social, economic, and financial, of the lunacy problem.

THE position which phthisis occupies at the head of the causes of death among the Registrar-General's returns gives to this disease an interest and importance of the highest kind. We propose, therefore, to briefly discuss, first, the preventive and, secondly, the remedial treatment available at the present time for coping with the disease, *apropos* of the discussion which was o ened by Professor CLIFFORD ALLBUTT in the Section of Medicine at the Portsmouth meeting of the British Medical Association. In the evolution of the pathology of pulmonary tuberculosis a stage has now been reached at which we may ask ourselves the question so often put to us by the laity, Is phthisis catching? Tuberculosis is now well established as a microbic disease and there are in this as in all other microbic disorders two groups of factors in the causation, those relating to the microbe on the one hand and those concerning the soil on which it falls—the hereditary or acquired susceptibility of the individual—on the other. Now, it is on these factors and their relation to one another—the virulence of the bacillus on the one side and the susceptibility of the individual on the other—that the answer to our question and the measures necessary to cope with the disease depend.

It has been shown by KOCH and others that the bacillus tuberculosis has a very feeble vitality, a weak infectivity, and that the parasite can only with difficulty become installed in its human host, in spite of the great frequency of consumption. Away from its host and his secretions, dry air and sunlight will kill the microbe in a very few hours; and if it were not for the special conditions at the apex of the human lung, to which reference will be made later, it is highly probable that the bacillus would only rarely become established there. In spite, therefore, of the difficulties of notification—whether voluntary or compulsory—in such a widespread malady, many medical men, and notably medical officers of health, urge that this, followed by disinfection and perhaps isolation, applied to tuberculous human beings and animals will in the long run prove to be the best means of successfully dealing with the disease. There is perhaps much to be said in favour of this view, for notification would not only enable us to adopt measures for disinfection, but also to investigate and reform that environment of the individual which favours the development of the disease. The extreme importance of investigating the surrounding circumstances in cases of phthisis could not have been established more forcibly than by the important facts mentioned in the course of the discussion by Dr. MITCHELL BRUCE, the President of the section. If the figures which he submitted are correct they go to show that the proportion of the boys in training for the Royal Navy attacked with phthisis is excessively heavy, being 8 per 1000 as compared with an attack-rate of only 5 per 1000 which exists in the whole force of men and boys in the navy. This comparison is all the more striking when it is remembered that the boys in the training ships have passed a searching examination as to their physical condition on admission a year or so before. He found, moreover, that whereas the attack-rate amongst the boys in a fairly modern iron ship such as the *Black Prince* stationed at Queenstown was 2·812 per cent., that among the boys in an old wooden ship like the *Impregnable* at Plymouth was 4·98 per cent., or nearly double. There are certainly *primâ facie* grounds for very thorough investigation, and the figures given by Dr. MITCHELL BRUCE tend to show how largely the development of the disease is dependent on the environment of the individual.

Facts such as these certainly form some of the strongest grounds in favour of notification, and there are many who support this procedure without advocating disinfection and isolation in their entirety. But the disease certainly cannot be regarded as infectious in the full and ordinary meaning of the term, and everything goes to show that human beings compared with many of the lower animals are so naturally and strongly resistant to the microbe that their proclivity to the disease is very feeble. The immunity of nurses attending on phthisical patients, and of the friends and relations who live and often sleep with sufferers from the disease, are clinical proofs of the strongest kind that it is not virulently infectious. A remarkable and significant fact showing how resistant is the human being was quoted by the opener of the discussion from the researches of BIRCH-HIRSCHFELD. Out of 4000 consecutive necropsies made on persons of all ages, dying from all manner of complaints, 40 per cent. were shown by thorough investigation to be suffering from latent tuberculosis of the lungs which had become encapsuled and had given, in most of the cases, no evidence during life. Incidentally it may be remarked that the feeble power of the

[1] THE LANCET, July 15th, 1899, p. 167.

microbe and the evident resisting power of man justify the hope that tuberculosis may some day become as rare in Great Britain as leprosy—the bacillus of which closely resembles that of tuberculosis in many ways—is now.

But to return to the main question. If tuberculosis, though infective, is not highly infectious, disinfection and isolation are not, relatively to other microbic disorders, of very great assistance; and notification, though very valuable, aids us chiefly in an indirect manner. We must therefore direct our energies to rendering the individual members of the community immune, or at least less vulnerable. Overcrowding has long been known to render the individual prone to take the disease, or, what amounts to the same thing, the microbe more virulent. The figures mentioned by Sir HUGH BEEVOR afford very striking proof in this direction. These figures, which he quoted chiefly from the statistics of the medical officer of health of the London County Council, go to show that one-tenth of the population of London inhabits overcrowded houses and that this section of the population supplies one-third of the tuberculosis of the metropolis. Ample cubic space and ventilation are therefore prime factors. Cleanliness in the home and in the person, out-of-door exercise, sunlight, a liberal supply of wholesome food and water—in a word, healthy living—are also important measures.

Turning, in conclusion, to the remedial treatment, this, as Professor ALLBUTT was careful to point out, to be successful, must be adopted in the early stage. The cures in the incipient stage he placed as high as 80 or 90 per cent., but if a stage be reached when physical signs are obvious before treatment is adopted, the proportion of cures is lowered by 50 per cent. Early diagnosis becomes, therefore, an extremely important matter. Different observers attached widely different values to the various auscultatory signs and no two were precisely agreed on this point. The unity of all forms of phthisis was insisted on by several speakers and some advocated the abolition of such terms as "catarrh of the apex," "caseous pneumonia," and even "catarrhal pneumonia." The disease almost invariably begins as a tuberculous endo-bronchitis, and why the post-apical portion of the lung should be the starting-point is apparent from the casts of the bronchial tree taken by BIRCH-HIRSCHFELD, illustrations of which were shown by Professor ALLBUTT. This, the upper, portion of the bronchial tubes contains a "dead end" which the respired air enters less readily, and hence dust and microbes tend to settle there. But the physical signs are very slight and uncertain. Sir WILLIAM BROADBENT attached much importance (1) to an occasional single sibilant râle at the apex and (2) to myoidema. All the speakers were, however, agreed as to the value of temperature records, which should be taken every two hours. Some, chiefly the younger physicians, attached great importance to the presence or absence of the bacillus in the sputa, but most of the seniors maintained that its absence even after 20 or more careful observations does not in the least invalidate the case in the presence of other clinical features. The therapeutic agencies available were not so fully discussed as might have been wished, although the discussion extended over two days; but most of the speakers admitted the value of sanatoria, not so much by reason of any special virtue or originality of the agents employed, but (1) because they teach the patient the "discipline of illness" and reduce his treatment to a systematic method; (2) because they enable patients of moderate means to apply the hygienic principles which are absent from their homes; and (3) by the close and hourly observation of the patient which enables the physician to detect early, and deal with, anything in the nature of a complication. It was admitted in the discussion that much may be done in a patient's own home if the personal ascendancy of the physician over the patient is sufficient to ensure the carrying out of all the details of a hygienic life. "Healthier lives and healthier homes" constitute the keynotes to treatment, both preventive and remedial.

Annotations.

"Ne quid nimis."

RESIDENT MEDICAL OFFICERS AND THE WORKMEN'S COMPENSATION ACT.

THE Workmen's Compensation Act is a prolific source of trouble in the most unexpected quarters. At a recent meeting of the committee of the Cardiff Infirmary it occasioned an unseemly wrangle between the chairman and one of the resident staff. It seems that it has been the custom of the house surgeons to charge a fee of 2*s*. 6*d*. for certificates required by patients under the Act or as members of sick or accident societies. At the May meeting of the committee a complaint was made of this charge and according to the report which appeared in the local press the chairman said:

"'Is it your wish, gentlemen, that the resident medical officers should sign certificates of this character without fee or charge?' There was no discussion and the question of the chairman was answered with a general 'Yes.'"

The formal resolution as drafted read as follows: "Resolved, that the resident officers furnish such certificates free of charge in order to entitle patients to the benefits of their sick and accident funds." No mention was made of certificates for the purpose of the Compensation Act, and as a fact the charge was still made for these certificates. This was brought to the notice of the committee and Mr. Smith, one of the house surgeons, was asked for an explanation. He was proceeding to say that the resolution of the committee only referred to sick or accident funds when the chairman refused to allow him to go on and told him that it was not for him to discriminate. Mr. Smith attempted to reply, but was not permitted to do so by the chairman, and it was not until he was supported by a medical member of the committee that he was allowed to fully explain himself; and when the resolution as given above had been read it was apparent that there were substantial grounds for the position taken up by the resident staff. The chairman thereupon fell back upon "the intention of the committee" which, he declared, was distinctly that no certificates should be charged for, though how the house surgeons were to be made aware of this intention except through the medium of the formal resolution he did not think it worth his while to make clear. In the course of the discussion that took place Dr. T. Wallace, one of the honorary surgeons, and Dr. C. T. Vachell pointed out that many of the persons received into the accident wards of the institution were not in necessitous circumstances and it was unfair to the general practitioners in the town to give certificates under the Compensation Act free from all charge.

DEATH OF SIR EDWARD FRANKLAND.

THE name of Sir Edward Frankland has during recent years been so closely identified with the important question of the purity of the metropolitan water-supply that his immense services to theoretical chemistry may possibly have been overlooked. It is indeed difficult to estimate the value of Frankland's researches in the "fifties" in their bearing upon our present knowledge of the architecture of chemical compounds. Only those who have studied the history of chemistry closely can appreciate the fruit of Frankland's labours, but the community should know that Frankland's work has been largely responsible for placing this country in the high scientific position which it holds as a nation that has contributed more than any other to chemical knowledge and to the application of that knowledge to industrial pursuits. The death of Sir Edward Frankland, which took place on August 9th in Norway, removes in a word one of the most distinguished chemists of the time and one of the very few remaining who have had the privilege of almost witnessing the birth of chemistry as an exact science and its growth to the maturity of the present day. Frankland's merit (such was his retiring disposition) was scantily recognised by his contemporaries and some even accredited themselves with having conceived certain doctrines in regard to the atomicity of the elements which were undoubtedly due to Frankland. His discovery of those curious compounds, metallic methyls and ethyls, placed him on pretty sure ground for initiating this theory. His later researches confirmed the idea which he had conceived and it was in 1852 that he announced before the Royal Society, of which he was elected a Fellow in the following year, the doctrine of atomicity or the equivalence of the elements. In this monumental piece of original research he was with the famous chemist Kolbe, under whom he studied in Germany after a close association with the work of Liebig and Bunsen in the classic laboratories of Giessen and Marburg. After such excellent training he left Germany and filled successively the chairs of chemistry in the Owens College, Manchester, and in the Royal School of Mines, London. He occupied the chair of chemistry also at St. Bartholomew's Hospital and was Faraday lecturer at the Royal Institution. He relinquished purely academic work in 1885 to take up seriously the question of the quality of the London water-supply, a matter in which his interest had been aroused as a member of the second Royal Commission on the Pollution of Rivers. On that occasion the Government provided him with a finely equipped laboratory in which the chemical qualities of water from various geological strata and from different sources of supply, the possibility of rendering water pure for domestic purposes, the propagation of disease by drinking water, the influence of hard water on health, the deterioration of water in mains and service pipes, and the quality of the London water-supply derived from the Thames received careful study and investigation. This work was begun before bacteriology became a science and before the specific organisms of water-borne diseases had been recognised. Frankland soon realised the importance of bacteriological discoveries in relation to water-supply and he has contributed in no small measure to our knowledge of the conditions under which the filter beds work best. From that time onward he was almost exclusively engaged as the Official Examiner to the Local Government Board of the Metropolitan Water-Supply. With great pains he elaborated, in association with Professor Armstrong, the somewhat tedious though extremely accurate combustion process for the estimation of organic carbon and nitrogen in water residues. Frankland was also an investigator in the field of physical chemistry as well as physiological chemistry. In the former domain his experiments with Tyndall on the effect of high altitudes or diminished pressure upon flame, supported by subsequent experiments made in the laboratory, led him to the conclusions that light was not always due to solid particles, since these were absent in many luminous flames, and that incandescence was due largely to density, luminosity increasing with pressure. In the latter domain he participated in some experiments on the relation of work to diet, showing that a large proportion of muscular force was due to the oxidation of non-nitrogenous substances. Sir Edward Frankland had bestowed upon him the degree of D.C.L. in 1873 by Oxford University and the degree of LL.D. in 1884 by Edinburgh University. His services to science were fittingly recognised by Her Majesty in 1897 when the honour of K.C.B. was conferred upon him. The scientific world will mourn the loss of a brilliant investigator and of one who unselfishly devoted his time to the furtherance of our knowledge of the constitution of matter as well as to great public health questions, and the present generation and those to come will recognise that his work bore abundant fruit. Sir Edward Frankland was born in 1825, so that at the time of his death he was 74 years of age.

THE EXERCISE TREATMENT IN TABES DORSALIS.

DR. ALFRED WIENER, Adjunct Professor of Nervous Diseases in the New York Policlinic, writes strongly of the value of what he calls compensatory gymnastics for the relief of ataxia in cases of tabes dorsalis. He thinks that in these exercises a method of treatment has been discovered by means of which ataxic patients can be so greatly benefited that they apparently recover their normal gait. He has been trying the system for some months past and has purposely chosen very severe cases—10 in number. He gives the particulars of three of these in his paper read before the Section of Neurology and Psychiatry of the New York Academy of Medicine and published in the *New York Medical Record* of July 22nd, 1899. The ataxia in all was severe and associated with other symptoms of tabes which, however, he does not give in detail. This treatment has been chiefly worked out by Fraenkel of Weiden, Switzerland. But Dr. Wiener has not, like Fraenkel, employed any complicated apparatus, but only such means as may be found in any physician's house or may be obtained or constructed by the patient himself. It is advisable in all severe cases to teach the patient to perform the various exercises on his back, at first with his eyes open and afterwards with his eyes shut. Each case will suggest to the physician the kinds of movement needed. When the patient has become an adept at performing movements in the recumbent posture he is to be got into a chair and taught to perform the various exercises prescribed for him. When this has been accomplished the third stage of exercise treatment has been reached—the patient learns to stand and walk and to perform difficult and complicated movements. The treatment of all cases begins in bed. Body and mind are strengthened by hydro-therapeutic procedures, diet, and general therapeutics. Monotony of exercise and movements is to be avoided. All has to be explained to the patient and he is to be encouraged to recognise improvements in his powers. Dr. Wiener is careful to point out that the treatment is in accordance with the pathology of tabes. There is no object of strengthening muscles, seeing that in pure tabes there is no paralysis, atrophy, or other muscular fault. The treatment consists in systematic exercise practised for the purpose of helping those patients to coördinate properly, to overcome their uncertainty, and to gain confidence in themselves. He endeavours to explain the good effect of the exercise treatment of tabes on the theory of the sensory

origin of ataxia. In this disease the sensory tracts in the spinal cord are destroyed. "Nevertheless patients learn by a systematic education in compensatory gymnastics to again control their various movements. The only explanation that can be offered is that these patients are compelled to call upon other perceptive faculties to supplant their lost sensory conduction." Apart from this theory he finds it impossible to account for the remarkable improvement in the gait of the patients whose cases he records. We commend the treatment to our readers, for it at least compares favourably with others in simplicity and harmlessness.

THE VIEWS OF AN EIGHTEENTH-CENTURY DEMOGRAPHIST.

WRITING very nearly 150 years ago[1] Mr. Corbyn Morris bewailed the "increasing Diminution of the Christenings in *London* beneath the Burials," a lamentable condition of things which he believed to be chiefly due to "the enormous Use of *spirituous liquors*." Having carefully collated the bills of mortality as published annually by "the Company of Parish Clerks," he was driven to the conclusion that during the preceding 63 years no fewer than 600,000 lives had been "wasted" in London—a holocaust that he trusted would "at length be viewed with Horror and Amazement." The causes whence the burials came to exceed the christenings were fivefold. 1. The multitudes of adult persons who were continually called to London from various parts by occasional business. Many of these persons were not married and few of those who were brought their wives with them. "All these Persons are therefore liable to die" adds the author somewhat quaintly, thus considerably increasing the amount of the burials while adding little or nothing to the amount of the christenings. 2. The large number of servants of both sexes, mostly unmarried, who were retained "merely for Grandeur" by the great families continually resident in London. 3. The unhealthiness of the air of London to children. 4. The discouragement to Matrimony, whence "a great Checque to the Births." 5. But above all the enormous use of spirituous liquors. "For it is beyond all Dispute, that such Liquors are become the common *Drink*, and even the *Food* too, if it may be so termed, of these People. The Effects of which therefore must necessarily appear.—And the certain notorious ones are, that it debilitates and enervates the Drinkers, drying up and burning their radical Strength and Moisture, so as to render them less capable of Labour, or the Procreation of Children." Having posed and replied to a number of "Problems" that are more or less germane to his subject (for it must be confessed that Mr. Corbyn Morris is rather discursive) the author exclaims in respect of these wasted lives: "What a monstrous *Loss* hath this been to the Nation? Compute the *Worth* of each to have been only an *hundred Pounds* upon a Medium, which is the least Price such Persons would bear upon an Average, were they to be sold for Servants to any country, where such Purchases are admitted. Many of them being Scholars, and Persons of Skill in various Sciences, and Manufactures; and the whole Sum will amount to *Fifty Millions Sterling*. This therefore is the *Sum* which hath been *lost* to this Nation by their Destruction." What was needed to remedy the evil was the introduction of "such a just Policy ..... that the annual *Births* might *equal* or *exceed* the *Burials*, and produce glorious and happy Effects." In the French capital, according to Mr. Maitland's published account, during the period from 1728 to 1738 there were (apparently) 190,441 births, inclusive of 22,242 foundlings, and only 160,239 burials. "And it is certainly no impossible Point," continues the author, "to give the Births in the City of *London* the same Superiority over the Burials, as the *procreative Power* in this last City cannot be supposed, by any Englishman, to be inferior to that of *Paris*." Failing a just policy the author was quite convinced that during the next 150 years (that is, within the period ending in 1899), the city of London would "absolutely destroy, instead of *one million* (the alleged sacrifice during the preceding 150 years), above *one million* and *half* of People; and this without *begging* any *Assistance* from the *Plague*." The concluding problem of the series is thus stated: "To find the present *Tendency* of the *Progress* of *London*; or, in other Words, whether the People of this City proceed *increasing*, *diminishing*, or nearly upon a *Level*." In his solution Mr. Corbyn Morris takes a most gloomy view of the situation, clearly anticipating the total depopulation of our capital at no very distant date. "In entering upon this Reference," he says, "it may safely be premised that the *Rate* of *Mortality* in *London*, of late years, hath gone on continually *increasing*, both in respect of *Adults* and *Infants*; which is particularly to be charged to the abominable, notorious, Consumption of *spirituous Liquors*." It was in 1724 "that the *Consumption* of these *Liquors* by the common People first became enormous," and ever since that fatal year "the *Amount* of the *Births* hath likewise been constantly *diminishing*," having up to that date advanced with unfailing regularity. The author's "Remedies ..... towards preventing the *annual* Waste of *Infants* and *Adults* in this Metropolis," like the causes leading thereto, are five-fold. 1. "*Cleansing* of the City under one uniform publick Management," together with the piercing of "open Streets nearly parallel to each other" so as to ensure "a new Circulation of *pure air*." 2. The institution of several foundling-hospitals, which should be supported by taxing the unmarried. 3. The encouragement of matrimony, especially among the servants of the wealthy, who should make "a suitable Recompence to the Publick for their *respective Trespasses* in this Article." 4. The issue of licences to retailers, "for vending the Produce of the Industry of others." 5. A general crusade against the use of spirituous liquors. With reference to his first proposal the author says: "The *Unhealthiness* of the *Air* of *London*, tho' not greater than formerly, has been mentioned before, as one operating Cause of the annual Destruction of many People. I am not insensible that this will appear to many Persons extremely chimerical, and indeed it is the least powerful *Weapon* in the Hands of *Death*." His *bête noire* being "spirituous liquors" the real source of the excessive mortality escapes his ken. Doubtless intemperance was an evil then as it still is, but overcrowding and filth were many times more deadly. For all that the book is a remarkable one considering its date, and Mr. Corbyn Morris is certainly entitled to a niche in the temple of Hygeia. Probably a reprint of his little work would be appreciated.

[1] Observations on the Past Growth and Present State of the City of London. Printed in the year M.DCC.L. (1751).

NOBODY'S CHILD.

THE safeguarding of infant life involves many questions of considerable practical difficulty which become hardest of solution when we consider them with relation to the illegitimate offspring of those to whom the maintenance of a child means a serious drain upon their resources or in whose case the woman is left to face the liability alone, with the possibility that discovery may deprive her of all means of earning wages even for her own support. What frequently follows is tolerably well known. In the case of a child said to be named Rackham, on whose small body Mr. Wyatt held an inquest recently, no blame appears to have attached to the adoptive mother, and the circumstances of the child's death did not elicit comment from the jury. The circumstances

in which she left the "lying-in house" are, however, worth recording, if only to remind us how such transactions take place. The wife of a labourer pleaded ignorance before the coroner as an excuse for lying to the medical man whom she asked for a death certificate which he refused and whom she told that she was herself the mother. She further admitted that she had been acquainted with the keeper of the "lying-in house," and we can neither corroborate nor question the truth of her own words as reported. "It was such a 'pretty little dear,' the lady (the child's mother) said I could have it if I liked as I had none of my own. She left me £5 to buy it some clothes." So the "lady" vanished into the vastness of London and the child registered as Emma Caroline Rackham, adopted, *plus* £5, when 14 days old by the labourer's childless wife, lived 14 months and then died. No blame, as has been said, attaches to her adoptive mother; perhaps the infant was fortunate that, being a "pretty little dear," she was encouraged to live so long; perhaps she was fortunate that she died. But it is not unreasonable to suggest that, in neighbourhoods where babies whether pretty or not are to be had, together with £5, for the asking by those who enjoy the privilege of acquaintance with "lying-in house"-keepers, such establishments should be compulsorily registered or otherwise supervised, particularly with a view to tracing, during the early days of their lives, the fate of the children born in them. It is in the interests of humanity that something of this kind should be done, though the measures necessary for bringing it about with certainty may not be easy to devise.

ASYLUM ACCOMMODATION REQUIRED FOR LANCASHIRE AND CHESHIRE.

FOR a long time past the crowded state of the asylums in both Lancashire and Cheshire has frequently been discussed by the various authorities. As an illustration, so far back as April last the Preston magistrates were in difficulties as to what should be done with a man suffering from delusional mania who showed homicidal tendencies. In the previous September Mr. J. E. Dunn, the surgeon at the Preston Gaol, certified him as insane and he was taken to the workhouse but discharged. In February Mr. Dunn signed a similar certificate adding that the man was dangerous to himself and others, but he was again discharged. In April his wife was told by Mr. Dunn that the proper thing to do was to apply to the relieving officer, but that official refused to give an order. Neither Whittingham nor Lancaster was able to receive him. At the meeting of the Cheshire County Council on August 3rd a motion was brought forward by Colonel J. C. Antrobus, chairman of the Committee of Visitors of the Parkside Lunatic Asylum, and carried authorising "the Committee of Visitors of the Parkside Asylum to prepare plans and obtain estimates with a view to the enlargement of the Parkside Asylum." The Stockport and Macclesfield Boards of Guardians had already been pressing for this extension. The idea of the committee is "to erect a block to accommodate 50 epileptics and to provide a separate hospital annexe to be occupied by 200 patients under classified treatment." In February last the two Commissioners in Lunacy who visited the asylum said that "the question of providing proper asylum room for lunatic patients of this county is a burning one and does not admit of delay." Colonel Antrobus estimated that 18 months would be required for the preparation of plans and the reception of tenders, so that by the time the buildings are ready for the patients the pressure, already excessive, will probably be greatly increased. Mr. Hodgson, L.R.C.P. Irel., thought that "before long they would have to face the question of the advisability of promoting a provisional order, perhaps in conjunction with another county, for the creation of an asylum board which would insist on a unification of policy and do away with friction such as existed between Parkside and Upton."

PLACENTAL SYPHILIS.

A NOTE by MM. Fabre and Patel in the *Journal de Clinique et de Thérapeutique Infantiles* of August 3rd describes the placental changes which the writers believe to be produced by syphilis acquired after conception. They find that in the fœtal portion of the placenta peri-arteritis and endophlebitis are constantly present. The cells within the villi, moreover, are less numerous and their nuclei less deeply stained than usual. The surface epithelium of the same structures is also altered, being in some parts destroyed and in others proliferated. The maternal decidua is hypertrophied and the surface corresponding to the spaces between the villi shows cone-shaped overgrowths which penetrate the chorion. The decidual epithelium is rarely normal, but though the size of the cells is not altered they appear to be separated by an increase in the intercellular tissue suggestive of "fibrinous or gummatous endometritis." A similar condition (an "amniositis") is observable among the cells of the amniotic epithelium which look as if they are strangled. The chorionic fibres are likewise separated and this appearance is noticeable even in the smaller syphilitic placentæ. The writers direct attention to the obvious consequence to the fœtus of this perversion of structure at the seat of its nutritive supply.

MIDWIVES AND STILL-BIRTHS.

A MIDWIFE has been severely censured at the request of a jury by the coroner of Birkenhead, Mr. Cecil Holden, for taking the body of a child which she said was still-born, and concerning which there was no suspicion of violence, in a box to St. Mary's Churchyard, Birkenhead, and leaving it there. She told the friends that still-born children were to be taken there and left with the sexton or his "man," to whom 1*s.* was to be paid. The 1*s.* was given to her for this purpose, and the child was subsequently found in the churchyard. The sexton and his assistant were produced in court, but neither of them answered to the man whom the midwife said she had seen and to whom she gave the child and the 1*s.* The jury disbelieved the midwife's story and thought that she had kept the shilling herself and had not properly delivered the body to the sexton or his assistant. She had "practised" 50 years as a midwife and she declared that this was the first time she had had to do anything of the kind. The sexton's assistant said it was the practice for midwives to get a certificate from a medical practitioner or a form from a registrar, in which case the child was buried for a fee of 2*s.* 6*d.*

DINNER TO THE OTOLOGICAL CONGRESS GIVEN BY THE PRESIDENT OF THE GYNÆCOLOGICAL SOCIETY.

AMONG the many amenities of the meeting of the Sixth International Otological Congress not the least pleasant was a dinner given by the President of the British Gynæcological Society, Dr. Macnaughton Jones, on August 10th at the Café Monico. Among the guests were Dr. Urban Pritchard, President of the Congress; Professor Avoledo, Milan; Dr. F. Alt, Vienna; Dr. Barkan, San Francisco; Dr. Bobone, San Remo; Dr. Benni, Warsaw; Dr. Brieger, Breslau; Dr. Barr, Glasgow; Sir J. Crichton Browne, London; Professor Capart, Brussels; Dr. Duchesne, Liége; Dr. Dench, New York; Sir James Dick, K.C.B.; Professor Faraci, Sicily; Professor Gradenigo, Turin; Professor Grazzi, Florence; Professor Guye, Amsterdam; Dr. Hartmann, Berlin; Dr. Knapp, New York; Professor Lucae, Berlin; Professor Luc, Paris Dr. Moore Lindsay, Salt Lake

City; Dr. Moure, Bordeaux; Professor Macewen, Glasgow; Dr. Ménière, Paris; Professor Politzer, Vienna; Dr. Rohrer, Zürich; Dr. Sune y-Molist, Barcelona; Dr. Story, Dublin; Professor Uchermann, Christiania; Dr. Glover, London; and Dr. Dawson Williams, London. Most of the officers of the British Organisation Committee of the Congress were also present as were some of the Fellows of the British Gynæcological Society. The President of the British Medical Association was prevented from being present at the last moment. The toasts were few and well chosen. The generous host showed, in proposing the health of "The Visitors," a wide knowledge of the workers in otology—a specialty with which he was once connected. It was gratifying to hear Professor Politzer and other distinguished guests do full justice to British leaders in this department of medicine.

MEDICAL LEGISLATION IN SOUTHERN RHODESIA.

WE recently[1] commented in a leading article on "An Ordinance relating to the Practice and Sale of Medicine and Practice of Dentistry in Southern Rhodesia" which had been passed by the Legislative Council. This ordinance we characterised as "a most crude and unsatisfactory attempt at legislation, unworthy of the assent of the High Commissioner, and giving no guarantee for the licensing of good medical practitioners, druggists, or dentists." We are glad to learn that Sir Alfred Milner, the High Commissioner, has withheld his assent to the ordinance and that the Colonial Secretary, Mr. Chamberlain, in reply to a letter from the President of the Council of the British Medical Association stating that a deputation would, if desired, wait upon him to lay the facts before him, has announced that he is awaiting a report on the subject from the High Commissioner.

ALCOHOLIC NEURITIS IN A CHILD.

IN the *Journal of Nervous and Mental Diseases* for June, 1899, Dr. George W. Jacoby records the case of a boy, four and a half years old, suffering from symptoms of alcoholic paralysis. He had been in apparent good health until four weeks prior to the report, at which time he had had severe colic without vomiting or constipation. His gait had been a little unsteady in walking and subsequently his left knee-joint had become swollen. It was found that the boy had received from about half to one tumblerful of beer daily ever since the age of six months. On examination there was extensor paralysis of the hands and legs (foot-drop and wrist-drop), with the reaction of degeneration in all the muscles. There was no sensory disturbance. This case emphasises the cumulative effects of small doses of a poison long continued. The nerve trunks in this case were painful and tender to touch (neuritis), but there was no general hyperæsthesia of the skin. In the discussion which followed the demonstration of this case (at the New York Neurological Society, April 4th, 1899), Dr. Joseph Collins said that he had had two similar cases under observation in the last two years. One of these was that of a child, aged seven years, who had been in the habit of drinking beer. This patient had not completely recovered his muscular power which had been partially paralysed during the first attack when the second attack came on. Both his cases presented a remarkable pallor of the cutaneous surfaces as compared with the redness of the mucous membranes. Dr. Jacoby in his remarks quoted some recent statistics regarding the habitual use of alcohol in a large German city. The municipal authorities of the city had undertaken an investigation among the school-children with the result that out of 100 children it was found that 16 drank no milk. 25 per cent. of the children had never tasted brandy but had habitually drunk beer or wine and 8 per cent. had received their daily potion of brandy "to make them strong." He thought that there was an almost equally large percentage of children among the German and Irish population of New York who were habitually given alcoholic drinks by their parents, with the result that many pathological nervous conditions were brought about. There could be no doubt about the cumulative and deleterious effects of alcohol when thus taken by children.

[1] THE LANCET, July 29th, 1899, p. 226.

"THE SPHERE OF A MATRON."

WE have referred already on two occasions—in THE LANCET of August 5th, p. 353, and of August 12th, p. 423—to an occurrence which has recently taken place in the Chelsea Infirmary. We are now in full possession of all the facts of the case which briefly are as follows. The junior resident medical officer of the Chelsea Infirmary performed a radical cure of a ventral hernia in a man, 44 years old, who was also suffering from bronchitis. On the twelfth day the last stitch was removed and the abdomen was bandaged, the operator giving directions that the patient was not to be moved, according to one version, or not to be turned on to the side, according to another. On the following day, the thirteenth after the operation, the matron, in response to the patient's complaint that his back ached, placed a soft pillow under his back. This was noticed a little later by the junior resident medical officer who had it removed. On the next day it was found that the wound had opened to some extent. The medical officer made a written complaint of the action of the matron, attributing to it the opening of the wound. These seem to be all the material facts and after a due consideration of them we can only express an opinion that a good deal seems to have been made of very little. As to the action of the matron, the placing of a pillow under a patient 13 days after an operation can hardly be considered as anything extraordinary, although it certainly should not be done if it has been expressly forbidden by the medical officer. There can be no sharply-marked boundary between the duties of the medical officers and the nursing staff of a hospital or infirmary beyond the general rule that the medical officer's directions must be carried out, but in carrying out these directions the matron and nurses are always supposed to use common sense, and when the directions do not contradict it the nursing attendants are justified in making such arrangement for the comfort of the patient as the requirements of the case seem to demand.

THE COLOUR OF BLINDS.

THE remarkable and widely-varying properties of the elementary colours which compose white light suggest that the employment of screens as in the blinds placed over our windows should be founded on a scientific basis. Our knowledge of the properties of each individual section of the spectrum is not exact, but this much we do know, that the rays of least refrangibility, the red rays, are without direct chemical effects, they occur at the heat end of the spectrum. On the other hand, the rays of the highest refrangibility contain the violet rays which chemically are exceedingly active. It is these rays which are concerned in photography and doubtless also in the great processes of vegetable nutrition and growth. The object of blinds is, of course, twofold—to keep a room cool and to screen out some of the light, so as to avoid the bleaching of colouring materials of the carpets and furniture. At the same time sufficient light must be admitted so that the occupant may see without difficulty. What, then, is the

best colour for this purpose? Since light exerts the peculiar action due to the actinic rays which materially and wholesomely affects the air of a dwelling room care should obviously be taken not to exclude all the rays that are so concerned. Thus ruby or orange red material would be contra-indicated. Abundance of light is inimical to the life of micro-organisms so that a material in some shape of a compromise should be selected. The best for this purpose is probably a delicately ochre-coloured fabric. This would screen part of the active light rays and if of a fair thickness the greater part of the heat rays, while admitting sufficient active rays to allow of a wholesome effect upon the room and its surroundings. Venetian blinds do not allow of the graduation, which is desirable, of the tone of light that may be adjusted with cloth fabric. As is well known, exclusively red light has been used as a therapeutic agent, and apparently with encouraging results, in measles.[1]

THE ACCIDENT TO DR. W. A. ELLISON.

WE regret to announce that as Dr. W. A. Ellison (who is Major of the regiment) was drilling with the Berkshire Volunteers at 10.15 A.M. on August 11th at the camp, Windsor Park, his horse ran away round the camp under a tree, the branches catching him on the head, the horse then stumbled and Dr. Ellison was thrown, falling on his head. He fell close to the hospital tent, where he was taken immediately, suffering from concussion of the brain, a large abrasion of the skin of the forehead, and contusion of the head. He was unconscious for about 10 minutes. He was carried in the evening by the Ambulance Corps men to Windsor Royal Infirmary on a stretcher, where he remains in the Barry ward. He is now taking nourishment better and is progressing as favourably as can be expected.

THE death is announced of Professor Robert Bunsen at Heidelberg. Professor Bunsen will be remembered as the founder of spectrum analysis and hence of stellar chemistry. His researches also have related to gas analysis, the analysis of mineral waters, and the phenomena attending combustion. It is remarkable that death during the last few days should have claimed two such eminent chemists as Bunsen and Frankland, both of whom were students together in the laboratories of Giessen and Marburg.

THE following members of the medical profession have accepted the invitation of the Committee of Management of the Seamen's Hospital Society to join the teaching staff of the London School of Tropical Medicine: Mr. E. Treacher Collins, Mr. Malcolm Morris, Dr. L. W. Sambon, and Dr. W. J. Simpson.

AN introductory address at the opening of the winter session of the Medical Department of Owens College will be delivered in the Physiological Theatre on Monday, Oct. 2nd, at 4 P.M., by Sir J. Crichton Browne, LL.D, M.D. Edin., F.R.S.

THE APPEARANCE OF BUBONIC PLAGUE IN PORTUGAL.

WITHOUT in any way wishing to attach undue importance to the occurrence of cases of plague at Oporto and at Lisbon, it must frankly be admitted that the subject is one of very considerable concern to the population and to the trade of Great Britain. As far as we have been able to gather there has been some delay on the part of the Portuguese authorities in arriving at a decision as to the nature of the disease which for some weeks past has manifested itself in Oporto, and having this in view it would be idle to deny that similar obscure phenomena may be presenting themselves at other Portuguese and neighbouring ports. The country of Portugal is not a very extensive one in point of area, and its total population is no more than that of Greater London. There is, however, ample pabulum for the cultivation of the plague bacillus, and, moreover, the trade of Portugal with Great Britain, whether by means of passenger vessels or by means of trading vessels, is by no means insignificant. Under these circumstances it behoves our port sanitary authorities throughout the country to look to their equipment and to vie with one another in their measures for the protection of the public health.

It is not so much at ports such as London, Bristol, Liverpool, Southampton, and Plymouth, despite the magnitude of their trade, that danger is to be feared, but at certain smaller ports, which for the present shall be nameless, where medical inspection is inadequate, where there is no proper isolation or disinfecting accommodation, and where the general practitioner who acts as port medical officer of health is away on his rounds the greater part of the day. Certain ports such as these have communication with Portugal, and the public has a right to expect that if plague, as it has done already and assuredly will again, presents itself at the ports of Great Britain, the vessel carrying the disease shall be properly dealt with.

No small responsibility rests upon the medical officers of health of such badly equipped districts, who are expected to reach a vessel without a boat, to isolate without a hospital, and to disinfect without a disinfector. Surely those who in olden time were called upon to make bricks without straw had a relatively easy task compared with these unfortunate officials. Medical officers of health in this position should speak out plainly, and should tell the sanitary authority which expects these impossibilities from them what the true position is. Better will it be to dispense altogether with the absurd remuneration which some of these officials receive than to bring discredit upon themselves by fearing to disclose the facts. The Medical Department of the Local Government Board is in matters such as these always on the alert, and we are informed that a survey of the ports by the Board's medical inspectors has already been arranged for and is, in fact, even now in progress. Port medical officers of health will doubtless value the support which these officers of the central health authority will be able, and we feel sure willing, to afford them. Their advent, too, should stimulate the medical officers of health of defaulting authorities to place the responsibilities of any disaster which may overtake the locality in the direction of plague infection upon the sanitary authority itself, and thus to discount any tendency there may be on the part of such authority to place the blame on the unfortunate official who already takes upon himself responsibilities altogether in excess of the recompense meted out to him.

[1] THE LANCET, June 10th, 1899, p. 1576.

AN AMERICAN SANATORIUM FOR CONSUMPTIVES.

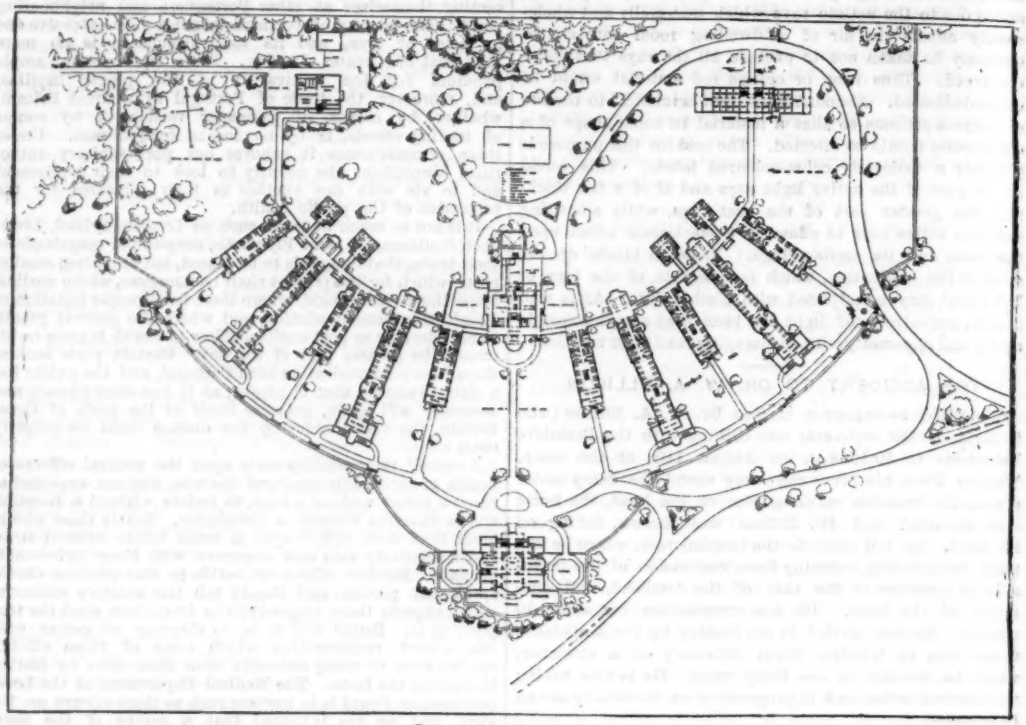
BY F. R. WALTERS, M.D., M.R.C.P. LOND.,
PHYSICIAN TO THE NORTH LONDON HOSPITAL FOR CONSUMPTION.

BY the kindness of Dr. Walter Marclay I am able to furnish a description of one of the most recently constructed hospitals for diseases of the chest in America—the Massachusetts State Hospital for Consumptive and Tuberculous Patients.

This institution, which was opened on Oct. 10th, 1898, stands 1200 feet above the sea-level in the open country about one and a half miles from a small village, one hour and three-quarters' journey by rail from Boston, and one hour by rail from Worcester. The place is just sufficiently near the coast to have "a suspicion of sea air" after several days of east wind; but otherwise it has an inland hill climate. The soil is sandy and rocky and contains much mica schist. There are 200 acres of land belonging to the institution, which covers the greater part of a hill with a southerly aspect and extends eastwards to a lake a mile long from which comes the water-supply. A hill rises to the north-west behind the institution about 100 feet higher than that building, which is further sheltered to the north by a grove of pine trees.

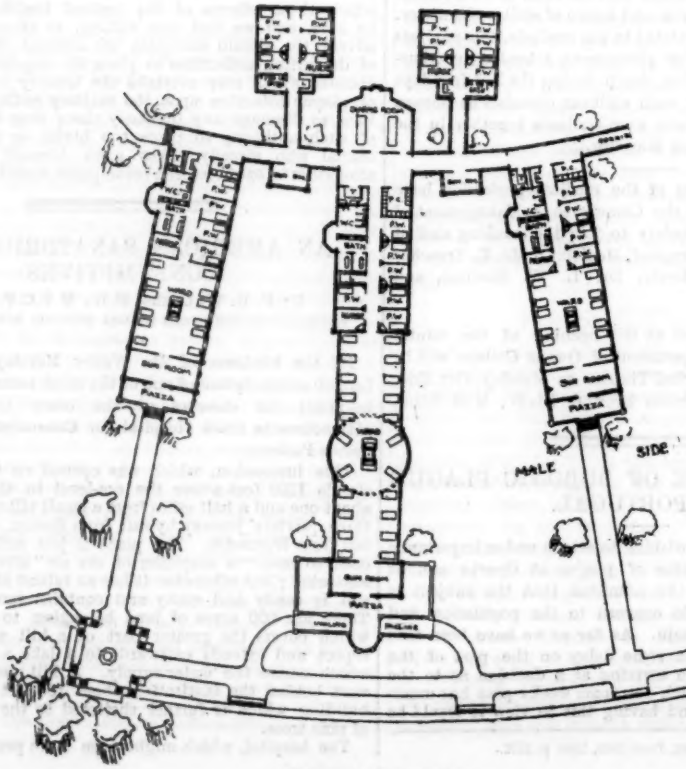
The hospital, which might even more properly be called a

FIG. 1.



Ground plan of sanatorium.

FIG. 2.



Enlarged plan of pavilions.

"sanatorium," consists of a number of one-storey pavilions radiating from the convex side of a semicircular corridor. (Fig. 1.) Behind the centre of this is the kitchen block with servants' dining-room and in front of it the nurses' dining room. Behind the kitchen block are the laundry and disinfector and still further back the dynamo- and engine-room. The western pavilions are for men and the eastern for women; and the latter also have separate dining-rooms. The pavilions are alternately long and short, the former having dining-rooms attached to them behind the circular corridor. The part of the pavilion immediately in front of the latter consists on one side of private wards and on the other of bathrooms, lavatories, and a nurse's room. Then come in succession a large ward for eight beds, a circular ward with from four to six beds, and another ward with eight beds terminating in a sun-room and a piazza. The shorter pavilions have only one large ward instead of two, and no circular ward. (Fig. 2.) Alternating with the above-mentioned pavilions but radiating northwards from the circular corridor are two pavilions on either side, each consisting of small wards, nurses' room, bathrooms, &c. Some distance in front of the centre of the semicircle is an administrative block with offices and separate kitchen. The nurses sleep in another block at the north-eastern corner of the ground; a corresponding block to the north-west consists of a mortuary, stables, and coachhouse. The wards have large windows and have an air space of over 1200 cubic feet per head. Every room has an inlet for warm air and an outlet for foul air, the former being supplied by four fans and engines in the basement. Ventilation is, however, mainly effected by open windows. These are only shut when patients are getting up or going to bed. The walls of the rooms are finished in hard plaster, all corners being rounded. The outer walls are rough cast. The roofs are finished with tar and gravel.

The hospital is intended for hopeful cases of phthisis drawn from the class of poorer wage-earners. A charge of 50 cents per day is made without any extras. There is room for 175 patients, and the average stay is expected to be about a year, unsuitable cases being dismissed after a probationary period of a few weeks. Private wards are set apart on purely medical grounds for those who are specially in need of them, no difference being made in the charge.

The treatment consists mainly in good food and rest in the open air, together with whatever accessory medical or hygienic measures may be required. Patients spend at least eight hours a day out of doors and in rainy weather they sit in the sun rooms with open windows. Daily cold baths are largely employed. Disinfectants are not used and sanitary cuspidores take the place of handkerchiefs. Most of the patients make their own beds and walk to the dining-room for meals; but there are trained nurses in the institution for those who need them. The medical staff consists of two visiting physicians (Dr. Bowditch and Dr. Clapp), a resident medical superintendent, and two resident assistant physicians.

The hospital was founded partly by a State subvention and partly by private munificence. The payments of patients cover about one-third of the cost, the rest being annually made good by the State.

THE SERVICES.

Royal Navy Medical Service.

THE following appointments are announced:—Staff Surgeons: W. R. M. Young to the *Andromeda* and A. E. Wightman to the *Diadem*. Surgeons: P. K. Nix to the *Andromeda*; F. A. Capps to the *Duke of Wellington*; N. L. Richards to the *Devastation*; H. Spicer to the *Northampton*; and J. H. Fergusson to the *Hannibal*.

Royal Army Medical Corps.

Major N. C. Ferguson is detailed to take over the medical charge of the troops at Fort George from Major R. Kirkpatrick who proceeds to Edinburgh for duty. Surgeon-Lieutenant-Colonel Stoney, Militia Medical Staff, is appointed to the medical charge of the troops and station hospital, Birr. Lieutenant-Colonel J. Macartney, retired pay, assumes medical charge of troops, station hospital, &c., Aberdeen, vice Surgeon-Major W. S. Cheyne, Army Medical Reserve. Major Jones and Lieutenant Crisp are placed under orders to proceed with a detachment of the Royal Army Medical Corps to South Africa. Major George W. Brazier-Creagh, from the Seconded List, to be Major, vice W. G. Clements, retired. Major Charles S. Spong, D.S.O., retires from the service receiving a gratuity.

India and the Indian Medical Services.

Colonel G. W. R. Hay, Bombay Establishment, is granted the temporary rank of Surgeon-General whilst officiating as Surgeon-General with the Government of Bombay during the absence of Surgeon-General G. Bainbridge on privilege leave. Major E. F. H. Dobson, Bengal Establishment, officiating Medical Storekeeper, Punjab Command, is confirmed in that appointment. Major Ronald Ross, Indian Medical Service, Madras, 19th Regiment of Madras Infantry, has been permitted by the Secretary of State for India to retire from the service, with effect from July 31st, 1899, subject to Her Majesty's approval.

Volunteer Corps.

Rifle: The Queen's Rifle Volunteer Brigade, the Royal Scots (Lothian Regiment): Surgeon-Major C. W. MacGillivray to be Surgeon-Lieutenant-Colonel. 4th Volunteer Battalion the Cheshire Regiment: Surgeon-Lieutenant Charles Porter resigns his commission and is appointed Second Lieutenant.

The "Affaire Dreyfus."

Not only is the whole story of the "Affaire Dreyfus" one of the most pitiful and tragical occurrences in history, but the principal actor in the terrible drama—Dreyfus himself—is, from a physiological and psychological point of view, one of the most remarkable men of this century. The preservation of his health under all the physical strain and trials to which he has been exposed is an extraordinary example of human endurance. The personality of Dreyfus naturally excites the deepest interest, for there has probably never before been such an exhibition of fortitude, self-control, and resolution, or such an illustration of the domineering influence of the human mind and will over physical nature. The whole story is a veritable scandal and it is beginning to be felt that the shame and disgrace of it all are not altogether confined to the nation immediately concerned, but is to be regarded as a matter of international concern and moment. When arbitration is talked of as opposed to war who, after all that has taken place of late would be disposed to submit a big question to the arbitration of France?

Indian Subordinate Medical Department.

The *Broad Arrow* states that "the Secretary of State for India has sanctioned the following improvements in the conditions of service for the Indian Subordinate Medical Department, Hospital Assistants' Branch, in order to render the branch more popular and obtain a better class of recruits: (1) Abolition of Sub-Hospital Assistant, which will make the commencing pay of Military Medical Subordinate 20 rupees monthly, plus 5 rupees for an English qualification; (2) a subdivision of the Grade of Senior Hospital Assistant into two classes, the first with the relative rank of subadar, with a salary of 100 rupees, and the second carrying the relative rank of jemadar, with a salary of 80 rupees, to include 30 rupees and 25 rupees respectively, admissible to men possessing an English qualification; (3) the creation of a Native warrant rank for 1st, 2nd, and 3rd Grades of Hospital Assistants; also an improvement of barracks."

Deaths in the Services.

Deputy Inspector-General William Richardson (retired) on August 4th. He joined the Army as Assistant Surgeon in 1848, became Staff Surgeon in 1857, Fleet Surgeon in 1872, and retired as Deputy Inspector-General in 1882. He received a pension for wounds in 1867.

Brigade Surgeon George Yeates Hunter, Indian Medical Service (retired), on August 11th, at his residence in London, in his sixty-ninth year. For many years he was Civil Surgeon at Karachi and was also Surgeon at the Jamsetgee Jeejeebhoy Hospital. He took part in the Abyssinian campaign and the Malta expedition.

The Indian Reliefs.

The demand for reinforcements for South Africa may, of course, dislocate the previous arrangements made in the Quartermaster-General's department for the Indian reliefs during the approaching trooping season. It is officially announced, however, that the contracts already entered into with the approval of the Indian Government for carrying out the reliefs will, if possible, be adhered to unless some unforeseen and pressing emergency arises.

The Campaign in the Philippines.

The United States Army in the Philippines is to be largely

reinforced in view of undertaking active operations as soon as the rainy season is over. The total strength will be brought up to 48,000 men, of whom 30,000 will be regular troops, with an additional cavalry force of 5000 men made up of regulars and volunteers.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 5778 births and 5320 deaths were registered during the week ending August 12th. The annual rate of mortality in these towns, which had increased from 15·7 to 24·6 per 1000 in the six preceding weeks, declined again last week to 24·3. In London the rate was 23·7 per 1000, while it averaged 24·7 in the 32 provincial towns. The lowest death-rates in these towns were 13·6 in Huddersfield, 14·7 in Blackburn, 16·0 in Halifax, 17·1 in Bristol, and 17·5 in Sunderland; the highest rates were 28·7 in West Ham, 30·3 in Sheffield, 32·3 in Manchester, 33·6 in Liverpool, and 36·3 in Plymouth. The 5230 deaths in these towns included 1598 which were referred to the principal zymotic diseases, against 1112 and 1538 in the two preceding weeks; of these, 1295 resulted from diarrhœa, 127 from measles, 71 from diphtheria, 58 from whooping-cough, 24 from "fever" (principally enteric), and 22 from scarlet fever. The lowest death-rates from these diseases were recorded in Wolverhampton, Birkenhead, Blackburn, and Huddersfield; and the highest rates in West Ham, Portsmouth, Liverpool, Salford, and Burnley. The greatest mortality from measles occurred in Liverpool, Oldham, Burnley, Halifax, and Sheffield; from whooping-cough in West Ham; from "fever" in Wolverhampton; and from diarrhœa in West Ham, Portsmouth, Plymouth, Salford, and Liverpool. The mortality from scarlet fever showed no marked excess in any of the 33 large towns. The 71 deaths from diphtheria included 26 in London, eight in West Ham, eight in Sheffield, and six in Leeds. One fatal case of small-pox was registered last week in Hull, but not one in any other of the 33 large towns, and no small-pox patients were under treatment in any of the Metropolitan Asylums Hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital on Saturday last, August 12th, was 2674, against numbers increasing from 2161 to 2704 on the 12 preceding Saturdays; 227 cases were admitted during the week, against 292, 307, and 297 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 169 and 157 in the two preceding weeks, rose again last week to 163, but were 10 below the corrected average. The causes of 62, or 1·2 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Nottingham, Leeds, and in 13 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Liverpool, Sheffield, and Sunderland.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased from 16·5 to 18·0 per 1000 in the three preceding weeks, declined again to 17·9 during the week ending August 12th, and was 6·4 per 1000 below the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 11·6 in Paisley and 11·8 in Perth to 19·7 in Glasgow and 20·5 in Greenock. The 545 deaths in these towns included 70 which were referred to diarrhœa, 13 to measles, eight to whooping-cough, six to "fever," five to scarlet fever, and two to diphtheria. In all, 104 deaths resulted from these principal zymotic diseases, against numbers increasing from 66 to 108 in the five preceding weeks. These 104 deaths were equal to an annual rate of 3·4 per 1000, which was 3·9 below the mean rate last week from the same diseases in the 33 large English towns. The 70 fatal cases of diarrhœa showed a decline of seven from the number in the preceding week and included 39 in Glasgow, nine in Edinburgh, and eight in Dundee. The deaths referred to measles, which had been 17 and eight in the two preceding weeks, rose again last week to 13, of which 12 were recorded in Glasgow. The fatal cases of whooping-cough, which had been nine in each of the two preceding weeks, declined to eight last week, and included four in Glasgow and two in Edinburgh. Of the six deaths referred to different forms of "fever" three occurred in Glasgow and three in Edinburgh. The five fatal cases of scarlet fever showed an increase upon the number in the preceding week and included three in Glasgow and two in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 64 and 52 in the two preceding weeks, further declined to 49 last week, and were 22 below the number in the corresponding period of last year. The causes of 20, or nearly 4 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had increased from 21·9 to 33·3 per 1000 in the three preceding weeks, declined to 31·9 during the week ending August 12th. During the past four weeks the death-rate in the city has averaged 28·9 per 1000, the rate during the same period being 22·2 in London and 16·7 in Edinburgh. The 214 deaths registered in Dublin during the week under notice were nine below the number in the preceding week and included 62 which were referred to the principal zymotic diseases, against numbers increasing from six to 65 in the seven preceding weeks; of these 43 resulted from diarrhœa, nine from measles, five from "fever," three from whooping-cough, two from diphtheria, and not one either from small-pox or scarlet fever. These 62 deaths were equal to an annual rate of 9·2 per 1000, the zymotic death-rate during the same period being 6·6 in London and 3·1 in Edinburgh. The deaths referred to diarrhœa, which had increased from three to 40 during the five preceding weeks, further rose to 43 last week. The fatal cases of measles, which had been 13 and 18 in the two preceding weeks, declined again last week to nine. The five deaths resulting from different forms of "fever" exceeded by two the number in the preceding week. The fatal cases of whooping-cough, which had been three and four in the two preceding weeks, declined again to three last week. The two deaths from diphtheria exceeded the number recorded in recent weeks. The 214 deaths in Dublin last week included 71 of infants under one year of age and 42 of persons aged upwards of 60 years; the deaths both of infants and of elderly persons slightly exceeded the numbers registered in the preceding week. Four inquest cases and three deaths from violence were recorded; and 63, or nearly a third, of the deaths occurred in public institutions. The causes of 15, or more than 7 per cent., of the deaths in the city last week were not certified.

VITAL STATISTICS OF LONDON DURING JULY, 1899.

In the accompanying table will be found summarised complete statistics relating to sickness and mortality during July in each of the 43 sanitary areas of London. With regard to the notified cases of infectious diseases in the metropolis, it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to 9·8 per 1000 of the population, estimated at 4,546,752 persons in the middle of this year. In the three preceding months the rates had been 6·2, 7·3, and 9·3 per 1000 respectively. The rates were considerably below the average in St. George Hanover-square, Hampstead, Stoke Newington, St. Giles, Strand, City of London, and Poplar; while they showed the largest excess in Holborn, St. George Southwark, Newington, St. Olave Southwark, Bermondsey, Rotherhithe, Lewisham, and Plumstead. Two cases of small-pox were notified in London during July—viz., one in St. George-in-the-East and one in St. George Southwark sanitary areas; no small-pox patients were admitted into the Metropolitan Asylums Hospitals during July, and none remained under treatment at the end of the month. The prevalence of scarlet fever in London showed a slight decline from that recorded in the preceding month; among the various sanitary areas this disease showed the highest proportional prevalence in Fulham, St. Martin-in-the-Fields, Holborn, Shoreditch, St. Olave Southwark, Bermondsey, Rotherhithe, Camberwell, and Plumstead. The Metropolitan Asylums Hospitals contained 2602 scarlet fever patients at the end of July, against 2088, 2172, and 2372 at the end of

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING JULY, 1899.

(Specially compiled for THE LANCET.)

SANITARY AREAS.	Estimated population in the middle of 1899.	NOTIFIED CASES OF INFECTIOUS DISEASE.											DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.†	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	**4,546,752**	**2**	**1520**	**1255**	**1**	**192**	**8**	**21**	**403**	**2**	**3404**	**9·8**	**1**	**200**	**29**	**143**	**92**	**—**	**32**	**—**	**638**	**1135**	**3·3**	**6013**	**17·2**	**206**
West Districts.																										
Paddington	123,794	—	46	23	1	6	—	—	9	—	85	8·6	—	1	1	3	—	—	—	—	18	23	2·3	112	11·3	131
Kensington	172,899	—	39	26	—	13	4	—	10	—	92	6·9	—	3	1	1	2	—	1	—	31	39	2·9	214	16·1	313
Hammersmith	108,785	—	38	21	—	3	—	1	12	—	75	9·0	—	—	2	3	2	—	1	—	19	27	3·2	132	15·8	247
Fulham	130,720	—	72	36	—	8	—	1	9	—	126	12·6	—	1	3	2	1	—	3	—	16	26	2·6	166	16·6	173
Chelsea	96,721	—	21	26	—	1	—	1	7	—	56	7·5	—	1	1	2	4	—	1	—	7	16	2·2	104	14·0	175
St. George Hanover-square	90,876	—	13	7	—	—	—	1	3	—	24	3·3	—	3	—	—	1	—	—	—	3	7	1·1	73	11·8	126
Westminster	52,117	—	24	10	—	3	—	—	4	—	41	10·3	—	4	—	3	—	—	—	—	7	14	3·5	98	24·5	248
St. James Westminster	21,827	—	6	2	—	5	—	—	5	—	18	10·8	—	—	—	—	—	—	—	—	1	1	0·6	26	15·5	86
North Districts.																										
Marylebone	140,139	—	36	10	—	5	—	—	18	—	69	6·4	—	1	2	—	1	—	—	—	24	28	2·6	181	16·8	165
Hampstead	80,252	—	14	6	—	5	—	—	—	—	25	4·0	—	2	—	2	1	—	2	—	—	7	1·1	56	9·1	104
St. Pancras	244,548	—	70	45	—	18	—	2	17	—	150	8·0	—	4	3	4	8	—	2	—	37	58	3·1	317	16·9	242
Islington	348,085	—	127	81	—	22	—	—	23	—	253	9·5	—	8	4	14	10	—	2	—	17	55	2·1	346	13·0	132
Stoke Newington	35,187	—	6	2	—	1	—	1	2	—	12	4·4	—	3	—	1	—	—	—	—	—	4	1·5	29	10·7	57
Hackney	222,571	—	93	45	—	11	2	1	17	—	169	9·9	—	6	—	6	2	—	2	—	37	53	3·1	278	16·3	225
Central Districts.																										
St. Giles	37,196	—	4	1	—	2	—	—	4	—	11	3·9	—	—	—	—	1	—	—	—	—	1	0·4	45	15·8	151
St. Martin-in-the-Fields	12,142	—	8	—	—	1	—	—	1	—	10	10·7	—	—	—	—	—	—	—	—	1	1	1·1	11	11·8	50
Strand	23,016	—	3	4	—	1	—	—	3	—	11	6·2	—	1	—	—	—	—	—	—	3	4	2·3	34	19·3	360
Holborn	29,621	—	16	7	—	2	—	—	6	—	31	13·6	—	—	—	—	1	—	—	—	2	3	1·3	49	21·6	2·8
Clerkenwell	66,068	—	27	21	—	12	1	—	6	—	67	13·2	—	2	1	1	2	—	1	—	12	19	3·7	98	19·3	297
St. Luke	40,868	—	17	12	—	2	—	—	5	—	36	11·5	—	3	1	4	1	—	2	—	7	18	5·7	88	28·1	250
City of London	27,986	—	5	5	—	—	—	—	1	—	11	5·1	—	—	—	—	—	—	—	—	1	1	0·5	36	16·8	105
East Districts.																										
Shoreditch	121,071	—	56	38	—	13	—	1	9	—	117	12·6	—	12	—	2	4	—	4	—	69	91	9·8	269	29·0	416
Bethnal Green	128,938	—	36	22	—	11	—	—	20	—	89	9·0	—	5	1	3	2	—	2	—	23	36	3·6	226	23·9	247
Whitechapel	81,391	—	21	19	—	2	—	—	13	—	55	8·8	—	10	—	2	2	—	1	—	5	20	3·2	115	18·4	171
St. George-in-the-East	48,560	1	13	8	—	1	—	—	7	—	30	8·1	—	4	1	—	1	—	—	—	16	22	5·9	107	28·7	253
Limehouse	58,807	—	10	15	—	1	—	—	5	—	31	6·9	—	1	—	2	3	—	—	—	15	21	4·7	101	22·4	303
Mile End Old Town	113,161	—	21	24	—	4	—	1	12	—	62	7·1	—	5	—	3	3	—	1	—	28	40	4·6	185	21·3	231
Poplar	170,606	—	19	25	—	4	—	1	15	—	64	4·9	—	15	—	4	9	—	2	—	51	81	6·2	307	23·5	297
South Districts.																										
St. Saviour Southwark	24,207	—	5	13	—	—	—	—	4	—	22	11·8	—	4	—	1	3	—	—	—	5	13	7·0	49	26·4	295
St. George Southwark	60,536	1	22	44	—	—	—	—	10	—	77	16·6	—	14	—	5	1	—	—	—	20	40	8·6	108	23·3	248
Newington	124,166	—	42	66	—	3	—	—	16	—	127	13·3	—	7	—	9	3	—	1	—	21	41	4·3	206	21·6	259
St. Olave Southwark	11,098	—	10	2	—	—	—	1	2	—	15	17·6	—	1	1	1	—	—	—	—	1	4	4·7	19	22·3	172
Bermondsey	85,835	—	42	75	—	2	—	1	5	—	125	19·0	—	7	—	7	2	—	—	—	11	27	4·1	131	19·9	221
Rotherhithe	41,050	—	31	17	—	1	—	1	12	—	62	19·7	—	1	2	2	1	—	—	—	2	8	2·5	48	15·2	141
Lambeth	308,108	—	68	86	—	6	—	1	24	2	187	7·9	—	28	1	13	8	—	1	—	3	84	3·6	407	17·2	178
Battersea	174,998	—	62	51	—	4	—	1	16	—	134	10·0	—	4	2	1	3	—	1	—	17	28	2·1	211	15·7	224
Wandsworth	209,655	—	60	72	—	6	—	—	20	—	158	9·8	—	2	—	6	2	—	—	—	24	34	2·1	204	12·7	154
Camberwell	264,817	—	132	114	—	5	—	3	15	—	269	13·2	—	17	1	19	5	—	—	—	28	70	3·4	329	16·2	182
Greenwich	182,513	—	76	73	—	4	—	—	20	—	173	12·4	—	14	—	5	3	—	1	—	17	40	2·9	253	18·1	176
Lewisham (excluding Penge)	91,027	—	35	53	—	2	—	1	2	—	93	13·3	1	—	—	8	—	—	—	—	4	13	1·9	98	14·0	76
Woolwich	41,542	—	12	14	—	1	—	1	4	—	32	10·0	—	3	—	2	—	—	—	—	2	7	2·2	47	14·7	79
Lee	40,219	—	11	17	—	1	—	—	6	—	35	11·3	—	3	—	1	—	—	1	—	2	7	2·3	39	12·6	105
Plumstead	64,031	—	51	17	—	—	1	—	4	—	73	14·9	—	—	1	1	—	—	—	—	1	3	0·6	51	10·4	120
Port of London	—	—	—	—	—	2	—	—	—	—	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including 19 cases of membranous croup.

† Including deaths from membranous croup.

the three preceding months; the weekly admissions averaged 293, against 177, 229, and 284 in the three preceding months. The prevalence of diphtheria in London showed a marked further increase upon that recorded in recent months; this disease was proportionally most prevalent in St. Saviour Southwark, Newington, Bermondsey, Rotherhithe, Wandsworth, Camberwell, Greenwich, and Lee sanitary areas. There were 1533 diphtheria patients under treatment in the Metropolitan Asylums Hospitals at the end of July, against 994, 1139, and 1273 at the end of the three preceding months; the weekly admissions averaged 229, against 107, 152, and 192 in the three preceding months. The prevalence of enteric fever in London exceeded that recorded in any month since February last; among the various sanitary areas this disease showed the highest proportional prevalence in Kensington, St. James Westminster, St. Martin-in-the Fields, Holborn, Clerkenwell, Shoreditch, and Bethnal Green. The Metropolitan Asylums Hospitals contained 131 enteric fever patients at the end of July, against 124, 99, and 105 at the end of the three preceding months; the weekly admissions averaged 26, against 16 and 20 in the two preceding months. Erysipelas was proportionally most prevalent in St. James Westminster, Holborn, St. George-in-the-East, St. George Southwark, St. Olave Southwark, and Rotherhithe sanitary areas. The 21 cases of puerperal fever notified in London during July included three in Camberwell and two in St. Pancras sanitary areas.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various sanitary areas of the metropolis, the deaths occurring in the institutions of London having been distributed among the various sanitary areas in which the patients had previously resided. During the four weeks ending July 29th the deaths of 6013 persons belonging to London were registered, equal to an annual rate of 17·2 per 1000, against 18·0, 15·8, and 14·8 in the three preceding months. The lowest death-rates in the various sanitary areas were 9·1 in Hampstead, 10·4 in Plumstead, 10·7 in Stoke Newington, 11·3 in Paddington, 11·8 in St. George Hanover-square and in St. Martin-in-the-Fields, 12·6 in Lee, and 12·7 in Wandsworth; the highest rates were 23·5 in Poplar, 23·9 in Bethnal Green, 24·5 in Westminster, 26·4 in St. Saviour Southwark, 28·1 in St. Luke, 28·7 in St. George-in-the-East, and 29·0 in Shoreditch. During the four weeks of July 1135 deaths were referred to the principal zymotic diseases in London; of these, one resulted from small-pox, 200 from measles, 29 from scarlet fever, 143 from diphtheria, 92 from whooping-cough, 32 from enteric fever, 638 from diarrhœa, and not one either from typhus or from any ill-defined form of continued fever. These 1135 deaths were equal to an annual rate of 3·3 per 1000, against 1·6 and 1·8 in the two preceding months. The lowest zymotic death-rates last month were recorded in St. George Hanover-square, St. James Westminster, Hampstead, St. Giles, St. Martin-in-the-Fields, City of London, and Plumstead; and the highest rates in St. Luke, Shoreditch, St. George-in-the-East, Poplar, St. Saviour Southwark, and St. George Southwark sanitary areas. The fatal case of small-pox was of a person belonging to Lewisham sanitary area. The 200 deaths referred to measles were 25 below the corrected average number in the corresponding periods of the 10 preceding years; this disease was proportionally most fatal in Shoreditch, Whitechapel, Poplar, St. Saviour Southwark, St. George Southwark, and Lambeth sanitary areas. The 29 fatal cases of scarlet fever were 42 below the corrected average number; this disease showed the highest proportional fatality in Fulham, St. Luke, St. Olave Southwark, and Rotherhithe sanitary areas. The 143 deaths from diphtheria were 16 below the corrected average number; this disease was proportionally most fatal in St. Luke, St. George Southwark, St. Olave Southwark, Bermondsey, Camberwell, and Lewisham sanitary areas. The 92 fatal cases of whooping-cough were 73 below the corrected average number; this disease showed the highest proportional fatality in Chelsea, Holborn, Shoreditch, Limehouse, Poplar, and St. Saviour Southwark sanitary areas. The 32 deaths referred to enteric fever corresponded with the corrected average number; the mortality from this disease showed no marked excess in any of the sanitary areas. The 638 fatal cases of diarrhœa were 151 below the corrected average number; this disease was proportionally most fatal in Shoreditch, St. George-in-the-East, and St. George Southwark sanitary areas. In conclusion, it may be stated that the aggregate mortality in London during July from these principal zymotic diseases was nearly 22 per cent. below the average.

Infant mortality in London, measured by the proportion of deaths of children under one year of age to registered births, was equal to 206 per 1000. Among the various sanitary areas the lowest rates of infant mortality were recorded in St. James Westminster, Hampstead, Stoke Newington, St. Martin-in-the-Fields, Lewisham, and Woolwich; and the highest rates in Kensington, Westminster, Strand, Shoreditch, St. George-in-the-East, and Limehouse.

Correspondence.

"Audi alteram partem."

THE PRESIDENTIAL ADDRESS IN STATE MEDICINE AT THE BRITISH MEDICAL ASSOCIATION.

To the Editors of THE LANCET.

SIRS,—I know that it is seldom worth while to reply to any criticism embodied in an editorial article, but in commenting upon my address to the section of State Medicine at the meeting of the British Medical Association at Portsmouth in THE LANCET of August 5th you cast such reflections upon my competency to express any opinion upon the most recent developments of bacteriological science that in common fairness I claim the right of defending the position which I have felt bound to take up in respect to the results of bacteriological research and treatment, whether in the direction of prevention or cure. You say, in effect, that I have not studied the most recent advances, otherwise I would have been forced to alter many of my utterances and that this applies more particularly to my remarks on the bacillus of tuberculosis. You further say that I would have fortified my position had I given more precise and copious references.

Although such criticism is of the vaguest kind I take it that the utterance in my address to which special exception is taken is the following: "Bacteriologists are not sure of their tuberculosis bacillus and it is a moot question whether the bacillus which is found in milk, and which is labeled as the tubercle bacillus, is not a cow-dung bacillus. A distinguished bacteriologist has admitted it; I venture to reiterate it." Now, apart from text-books on bacteriology and other publications, I have been in the habit of closely scanning the pages of THE LANCET and *British Medical Journal* for authoritative information concerning the most recent advances of this so-called "science," and, naturally enough, attach special importance to any contributions in this direction which proceed from the editorial chair. Well, it so happens that in a leaderette which appeared in the *British Medical Journal* of Feb. 4th last an account is given of Moeller's discovery of the Timothy grass bacillus. This bacillus was isolated and grown on various media, and the culture was almost identical with a culture of Koch's bacillus, while the pathological lesions found after injection experiments on guinea-pigs were practically identical with those seen in the case of Koch's bacillus. But further—and here I quote from the leaderette referred to—"Moeller also succeeded in isolating what he calls the 'dung bacillus' which is found in the fresh fæces of cows. The animals from which he obtained the bacillus had previously been declared to be non-tuberculous, having successfully recovered from tuberculin injections. This micro-organism also belongs to the tuberculous group and is chiefly distinguished from Koch's bacillus by its rapidity of growth."

That is my authority for my statement, and in spite of what individual bacteriologists may say I claim to myself the right of maintaining that mere rapidity of growth can constitute no logical distinction in researches of this kind, which are surrounded with difficulties of such magnitude that errors cannot help creeping in on every side. It is maintained by bacteriologists that because tabes mesenterica does not show the same reduction in its mortality-rate as phthisis the prevalence of the disease is due to tuberculous milk. This I hold to be a mere assumption which the right analysis of statistics does not confirm and which post-mortem examinations do

not support.[1] But I will not occupy more of your space beyond stating that I give ample reasons and quote sufficient evidence for my sceptical attitude with regard to the ever-extending relations of bacteriology to preventive and curative medicine in the last edition of my Handbook of Hygiene, which, by the way, is, I understand, now tabooed as a text-book on account of my so-called *heterodox* views. That matters very little, but I am now so fully convinced that all these newer methods are but the "baseless fabric of a vision" that some day I hope to publish a still more pronounced contribution on the errors and fallacies of modern medicine which are founded on bacteriological research.

It is quite possible, as you say, that my utterances, however much they may be *pooh-poohed* by bacteriologists, will be welcomed by anti-vivisectionists, to whom I have not allied myself. But the time has come to gauge results and I do not think that the public will much longer tolerate this indiscriminate torture and slaughter of animal life with which these researches are inseparably associated merely for hopes and expectations which seem ever to be deferred, and which I hold will never be realised, just because Jenner's great discovery, on which all these newer methods are admittedly based, bears no real analogy to them.

I am, Sirs, yours faithfully,

GEORGE WILSON, M.D., LL.D. Edin

Warwick, August 9th, 1899.

ILLEGAL CERTIFICATES OF PROFICIENCY IN MEDICINE, SURGERY, OR MIDWIFERY.

To the Editors of THE LANCET.

SIRS,—As signatories of those memorials who have also some personal responsibility for their terms we desire to be permitted to ask Mr. Horsley, through the columns of THE LANCET, in what respects the "important matter" of "illegal certificates of proficiency in medicine, surgery, or midwifery" was, in his opinion, "prejudiced," as he states in his "sixth report," by "the language and terms of the memorials presented to the Council from the Corporate and Medical Reform Association."

That association, in the first instance alone, raised the question, brought it diligently before the profession, and obtained to its two memorials the phenomenon of united action of our Direct Representatives, the support of some 15 medical societies all over the country, and about 1200 signatures, including those of some 200 laymen of good position and of such leading men in our own profession as Mr G. Anderson Critchett (now President of the Ophthalmological Society of the United Kingdom), Mr. H. E. Juler, Dr. Argyll Robertson, Dr. Brailey, Dr. John Couper, Mr. Adams Frost, Dr. Robert Barnes (honorary President), Dr. Macnaughton Jones (President of the British Gynæcological Society), and many others of scarcely less eminent position.

THE LANCET was won over to at least a friendly view of the resistance to such certification. The memorials and measures in support of them have recently obtained the unanimous approval of the four branches of the British Medical Association inviting the coöperation of other branches and the Council. In the General Medical Council not one phrase or word of the memorials was criticised or objected to, and so far from the Executive Committee reporting that "nothing ought to be done," that committee, as we understand its meaning, reported, and the Council resolved, that charges should be entertained against registered practitioners for improper conduct in reference to such certification of opticians, and, impliedly, with reference to such certification of midwives, but that there was a Bill before Parliament, which is not *now* the case. It is a moderate claim that the Direct Representatives have never on any subject had behind them in questioning the conduct of the Council and inviting it to reconsider its position such a body of general and influential support. Those brief memorials were a mathematically correct demonstration of the illegality of such certification and of that of the Council's action in drafting the Licence of the London Obstetrical Society and sanctioning that Licence and others, with a formal prayer, respectful but definite, that such illegal sanction be rescinded.

Is it possible that Mr. Horsley does not regard such sanction by the Council as illegal and calling for resistance, or considers that, if illegal, the Council ought not to be shown that it is so, or rescission of such illegal sanction be prayed for in the memorials? Our desire is to heartily support combined action of our Direct Representatives against the overwhelming majority that opposes them. Mr. Horsley will greatly assist us in this, we hope, most proper object by explaining in what respects the memorials were, in his opinion, faulty.

We are, Sirs, your obedient servants,

JAMES A. MYRTLE.
F. LORIMER HART.
R. F. TOMLIN.
TOM R. TAYLOR.

Guilford-street, W.C., August 12th, 1899.

*** We forwarded a proof of the above letter to Mr. Victor Horsley, whose reply will be found below.—ED. L.

To the Editors of THE LANCET.

SIRS,—Dr. Myrtle, Dr. Hart, Mr. Tomlin, and Dr. Taylor ask me to explain why I think that the very important matter of illegal certification is prejudiced by the wording and terms of the memorials issued by the Corporate and Medical Reform Association. The reason is that, in common with many of my co-signatories to these memorials, I felt that the sentences were so much involved as to obscure their meaning, while, further, the wording was inflated and indeed in many instances bombastic. Had the facts been clearly and tersely expressed many members of the Council would have given the memorials that consideration which the great importance of the subject deserves and would have supported Mr. Brown and myself in our endeavour to have the matter thoroughly investigated by a special committee, and active steps taken to rescind the Council's resolution approving the present form of the L.O.S. diploma. Our amendment, however, was rejected and I am convinced that it was only because many of the members were repelled by the unfortunate verbosity of the memorials and therefore did not inform themselves of the serious facts to which they referred. If, therefore, the Corporate Reform Association desires to help forward the reforms which are so much needed I would suggest that they should place the drafting of their documents in other hands and set forth their views and their arguments in as few and as plain words as possible.

I am, Sirs, yours faithfully,

VICTOR HORSLEY.

"CURATIVE SERUM IN PLAGUE."

To the Editors of THE LANCET.

SIRS,—Dr. Choksy of Bombay has entered the lists in the defence of Professor Lustig's curative serum for plague[1] and complains of some of the remarks contained in my communication published in THE LANCET of May 27th, p. 1459. He cannot refute those statements but he endeavours to cast discredit upon my criticism of certain published results by stating that I am "guided entirely from such stray notes as may happen to appear in lay papers." Apparently my comments on Professor Lustig's serum were unpleasant reading to those who only see one side of the question. The facts which I emphasised appear to be only too true. "74 patients were treated, of whom 49 died and 25 recovered, giving a mortality-rate of 66·21 per cent., against 79·48 per cent. in cases not treated with the serum. It must here again be noted that all cases which were moribund and all those which had gone over six or seven days and were either semi-convalescent or convalescent were excluded." Considering that cases which prove fatal within 24 hours after admission to hospital amount to over 30 per cent. and that a certain proportion of cases die after seven days of illness and during convalescence the comparison made between these selected cases and non-selected cases is ridiculous. I say again that the cases were selected and were not taken in any regular order or sequence. That being so, the statistics which are based on them are absolutely valueless and are consequently made to appear much more favourable than the results warrant.

Unfortunately for the correctness of Dr. Choksy's first assertion I have had opportunities of seeing for myself how some of the patients were treated by Professor Lustig's

[1] THE LANCET, Feb. 11th, 1899, p. 405.

[1] THE LANCET, July 8th, 1899, p. 116.

representative, and I regret to be obliged to again state that there is no satisfactory evidence to show that Professor Lustig's serum can reduce the mortality-rate in the slightest degree. The remainder of Dr. Choksy's letter is wholly irrelevant to the point at issue.

I am, Sirs, yours faithfully,

July 25th, 1899. YOUR SPECIAL CORRESPONDENT.

THE USE OF BROMIDE OF STRONTIUM IN EPILEPSY.

To the Editors of THE LANCET.

SIRS,—I have read with much interest Dr. J. G. Smith's report[1] on the use of bromide of strontium in 12 cases of epileptic insanity compared with that of the bromide of potassium in the same cases. As I have used the strontium salt for some years in a considerable number of cases of epilepsy with marked success, perhaps I may be permitted to make a few remarks upon Dr. Smith's conclusions. I am sure he will agree with me that 12 cases are far too few to base any reliable conclusions upon, but accepting the data for what they are worth, his results may be summarised as follows: (1) That the fits under the strontium were somewhat less frequent and of a milder type and the rash was much less marked; and (2) that the potassium salt required a smaller dose, the effect seemed to be more rapid and more lasting, judged only, however, by the necessity of increasing the dose of the strontium. So that in these series of cases the attacks were less, and milder, under the strontium.

Surely, therefore, his ultimate conclusion "that the bromide of potassium must be regarded as the more generally useful drug in the treatment of epilepsy," is not warranted by his facts. There is, however, one more important advantage that the strontium salt has over the potassium that Dr. Smith has not referred to—viz., the strontium salt does not produce that marked depression which the potassium does so frequently when taken for some time. In a medicine that has to be continued for years this is a most important point. I have met with more than one case of epilepsy where the patients have assured me that they would rather have the fits than suffer from the depression which is produced by the bromide of potassium. My own experience of the strontium salt as compared with the potassium is distinctly in favour of the former. Most of my patients had previously been treated with the potassium and certainly in diminishing the number of attacks and in no small number preventing their recurrence, in the absence of depression, the strontium salt has given me remarkably successful results.

I hope Dr. Smith will continue his interesting investigation.

I am, Sirs, yours faithfully,

ANTONY ROCHE, M.R.C.P. Irel.,

Dublin, August 14th, 1899. Professor, Catholic University, &c.

HOSPITAL ABUSE.

To the Editors of THE LANCET.

SIRS,—The following case may be worthy of reporting for the double purpose of warning my brethren in the country and of caulioning the London hospitals. An operation had been arranged for the removal of adenoids and nasal spur from a girl in a village near here. No question was raised about fee and final arrangements were being made when I received a note from the mother saying that after seeing me on the previous day her husband on coming home told her that they would pass their holiday in London and that he would then take his child to Dr. Mackenzie's hospital. I am aware, as all who have practised in London must be, how extremely difficult it is to check abuses, but is the honest attempt made always? At the general hospitals it is said to be done yet I have heard of patients who were unable to pay the operation fee of London consultants being admitted by them to the hospitals to which they belonged and the operation being performed for nothing. At some of the special hospitals abuses are checked or the effort to do so is made, but this is not always the case. The obvious and only argument which general practitioners have is to practise the specialties themselves and so not to give the opportunity for going to the large towns. A general anæsthetic is rarely necessary in throat work.

I am, Sirs, yours faithfully,

GRIFFITH C. WILKIN,

Late Surgeon to the London Throat Hospital.

West Coker, near Yeovil, Somerset, August 11th, 1899.

THE FINANCES OF THE IRISH BRANCH MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—My attention has only now been directed to THE LANCET of June 24th in which your "Own Correspondent" says, under the heading of the "Finances of the Irish Branch Council": "It would appear that the assets of the Irish Branch Council have dropped from £801 18*s.* 5*d.* in 1896 to £284 9*s.* 10*d.* in 1898, and it was only natural that the Irish representatives (all of whom reside in Dublin) should be asked by the President to explain how in two years there should be such an extraordinary drop in their receipts of £517." Kindly allow me to state that the income of the Branch for registrations for the year ending Dec. 31st, 1896, was £673 2*s.* 6*d.* and that for the year ending Dec. 31st, 1898, was £691 15*s.*

I am, Sirs, yours faithfully,

S. WESLEY WILSON, Registrar.

Dublin, August 14th, 1899.

"'TUBERCULAR' AND 'TUBERCULOUS.'"

To the Editors of THE LANCET.

SIRS,—In answer to the letter of "F.R.C.S." in THE LANCET of August 12th kindly allow me to amplify the objections to the use of the expression "tuberculous disease." The suffix "ous" means "full of," "abounding in"; "ar" means "pertaining to," "having the character or quality of." The letter "T" has not yet been reached in the Oxford English Dictionary, but Dr. J. A. H. Murray kindly wrote to a friend concerning the words: "I think it is correct to use both *tubercular* and *tuberculous*, according to the sense; the two words differ as do *popular*—of, pertaining to, of the nature of the people; *populous*—abounding in people." "The analogy of *popular* and *populous* ought to keep you right, or that of any of the numerous pairs in *-al*, *-ous*, as, in scoth, *numeral*, *numerous*. As you know, *-al* and *-ar* are the same suffix." "Attention, therefore, to any pair in *-al*, *-ous*, will also show how to discriminate *tubercular*, *tuberculous*."

According to the principle thus laid down by Dr. Murray "tuberculous disease" is as meaningless as "populous fallacy." Granular, granulous; nebular, nebulous; nodular, nodulous; tubular, tubulous—occur at once to the mind as further instances of the distinction. The report of the Royal Commission on Tuberculosis was issued in 1898, and in it "tubercular" is invariably used to qualify disease, "tuberculous" to qualify animals or carcases. The last edition of the "Nomenclature of Diseases," which sanctions only "tubercular," was published by the Royal College of Physicians of London in 1896. We may therefore infer that accurate writers still observe the distinction between the two words. If the proposal (which is not mine) be adopted, that the terms "tubercle," "tubercular," and "tuberculous" be restricted to the products of Koch's bacillus, then of course "tubercular leprosy" will have to be dropped. "Nodular leprosy," an expression already in use, will in that case probably replace "tubercular or tuberculated leprosy." Therefore, touching the supposition that if I am right "'tubercular' leprosy must be a product of the tubercle bacillus," I might "deny the allegation and defy the alligator."

I am, Sirs, yours faithfully,

WILLIAM R. HUGGARD.

Davos Platz, Switzerland, August 13th, 1899

To the Editors of THE LANCET.

SIRS,—Dr. W. R. Huggard's deference to literary precedents is little short of pedantic. The chief requisite in scientific language is precision combined with conciseness, but Dr. Huggard refuses to avail himself freely of the convenient word "tuberculous" and prefers to make "tubercular" serve the double purpose of denoting without further qualification not only nodular formation of any kind but

[1] THE LANCET, August 12th, 1899, p. 411.

also the products, processes, and seats of the pathological state termed tuberculosis. His contention that the phrase "tuberculous lungs" is correct, whilst "tuberculous disease, meningitis, osteitis," are incorrect, is a pleasantry worthy of the most fantastic periods of literary affectation. The terminology of a science or art grows with the advance of that science or art, and Dr. Copland, if he were still alive, would probably modify in several respects the views on pathology which he held in 1861. Mayne's "Medical Dictionary," quoted approvingly by Dr. Huggard, is the basis of "The New Sydenham Society's Lexicon of Medicine and the Allied Sciences," which was completed only a month or two ago, and which contains the adjectives "tubercular," "tuberculate," "tuberculated," "tuberculoid," "tuberculose," "tuberculosed," and "tuberculous." "Tubercular" is defined as "Formed like a tubercle; shaped into a little tuber or tuberosity; characterised by the presence of tubercles. *Tuberculous.*" "Tuberculous" is defined as "Affected with tubercles. Tuberculate. Pertaining to, or of the nature of, *Tuberculosis.*" One of the examples appended to "Tuberculous" is "T. inflammation. Inflammation resulting from the presence of the tubercle bacillus," a phrase which distinctly violates Dr. Huggard's canon as to the restriction of "tuberculous" to "concrete objects." Dr. Huggard is severe on translators, but that ought not to have prevented him from mentioning in his reference to the "Nomenclature of Diseases" that "tubercular leprosy" is rendered on the opposite page "lepra tubercularis," while "tubercular meningitis" is rendered "meningitis tuberculosa."

I am, Sirs, yours faithfully,

London, August 14th, 1899. M.B.

DIFFICULTIES UNDER THE VACCINATION ACT, 1898.

To the Editors of THE LANCET

SIRS,—Can anything be done to prevent the public vaccinator calling on patients of another practitioner and (either by his officer or himself) inducing parents to allow him to vaccinate their infant by telling the parents that no other medical man can get lymph or can properly vaccinate except the public vaccinator? Surely the Vaccination Act, 1898, never contemplated the interference of one local medical man with the private patients of another and using the opportunity as an introduction.

I remain, Sirs, yours faithfully,

August 14th, 1899. LYMPH.

*** The "Form of Vaccination Contract" appointed by the Local Government Board to be made between boards of guardians and public vaccinators contains the following clauses: "1. In the case of every child resident in the district, on the request of the parent or other person having the custody of the child, he will, within two weeks after the receipt of such request, visit the home of the child for the purpose of vaccinating the child. 2. In the case of every child resident in the district who has reached the age of four months, and as to whom he has received the requisite notice from the vaccination officer, he will visit the home of the child within two weeks after receipt of the notice and offer to vaccinate the child with glycerinated calf lymph or such other lymph as may be issued by the Local Government Board, and if his offer is accepted will thereupon (or after such postponement, if any, as may in his opinion be necessary) so vaccinate the child." It is therefore a public vaccinator's express duty to endeavour to induce parents to allow him to vaccinate their infants who have attained the age of four months. If he is foolish enough to try to support his arguments by casting aspersions on the family medical attendant the best course for the latter would be to obtain proper evidence of the conduct complained of and after making quite sure of the facts to lay the case before the board of guardians.—ED. L.

MEDICAL REFORM.

To the Editors of THE LANCET.

SIRS,—The rank and file of the profession have for many years been sorely tried by the conditions under which they labour and it is recognised now more widely than ever that some measures must be taken to protect the rights and privileges to which all on the Register are justly entitled if the profession is to retain any semblance of its self-respect and dignity. That grave abuses exist will scarcely be disputed by anyone with actual experience of the present conditions of medical practice and I think it will be as readily admitted that the efforts which have hitherto been made to remedy them have signally failed. Nor need we look far for the explanation of this failure. Is it not only too obvious that our existing institutions are inadequate for this purpose? The General Medical Council which controls our Register and to which we have vainly turned for the vindication of our position is only a council of registration and education and as constituted at present has no power to initiate the legislation which we require. Has it not been entirely owing to a misconception of its powers and functions that we have hitherto looked to it for redress, and would it not be well to recognise this once and for all rather than to persist in forcing matters upon its attention with which in reality it has no concern? Experience has also shown us that we cannot expect much help from the existing medical societies. They have been tried in this respect and found wanting. Nor need we feel any surprise when we remember that they are practically in the hands of the so-called consultants who, it is well known, do not feel the pressure of these evils. Our journals, which are largely occupied with highly technical and theoretical subjects of little interest and less value to the rank and file of the profession, have talked a great deal but effected very little. Nor have the numerous local efforts of practitioners who have in various places united together in an attempt to remedy the more pressing evils been in the main any more successful. Hitherto failure more or less complete has attended almost every effort at medical reform—and why? Because of want of union. Would it not be well to recognise, then, that until we can obtain unity efforts at reform which depend upon unity must necessarily fail and that these successive failures only weaken and divide our ranks? We may unite together to control ourselves but have no power and therefore should not attempt to control those who do not unite with us.

What is the use of allowing select and highly dignified ethical committees to solemnly condemn touting clubs as inconsistent with proper professional conduct and then to sit by with folded hands whilst the offender against whom they have fulminated their condemnation calmly scouts their interference and challenges their wrath? Surely the farce of moral pressure and professional ostracism is nearly played out and it would be well to recognise that if any real restriction is ever to be placed upon unprofessional conduct the penal clause of the Medical Acts must undergo considerable alteration. We must give the General Medical Council powers which at present it does not possess and then we must see that it makes full use of them. It must not be thought that I have any intention of advocating a tyrannical system of trades unionism. On the contrary, from local experience I am convinced that no attempt should be made to dictate on what terms medical men shall conduct their practices.

We have no right to attempt to penalise those who merely think differently to ourselves and it is especially necessary that we should provide such liberty for others as we may fairly wish to claim for ourselves. The present movement must be no mere crusade against low fees. The pecuniary abuse is by no means the only or even the greatest abuse, and though we shall do well to restrict medical charities to their proper limits we should manifest no desire to improve our position at the expense of the public. Let us unite together, then, to strengthen the hands of our elected representatives whose decisions shall control the whole of our profession and not a part only. Let all effort be concentrated in advocating and obtaining a governing body which shall speak with no uncertain voice and let us recognise that in no other way can effective unity ever be obtained within our ranks.

I am, Sirs, yours faithfully,

Birmingham, July 31st, 1899. M.R.C.S.

THE NAVAL AND MILITARY MEDICAL SERVICES.

To the Editors of THE LANCET.

SIRS,—I have carefully read over Professor Ogston's paper at Portsmouth and with regard to the Naval Medical Department I can only say that I endorse all that he says, but why does he stop short and be content with, I may say, almost casting a slur on a class of officers the members

of which can do, and when called upon always have done, their duty? Why does he not go to the root of the evil? Or is he ignorant of it? Is he not aware of the fact that the Medical Department of the Navy is governed by the executive class, and that, instead of the Medical Director-General having a seat on the Board, he is sent for by their lordships, waits in the reception-room till called in, and then most likely told what he is to do and whom to nominate for certain billets—*vide* the appointment to Haslar a week or two ago of a deputy-inspector-general instead of an inspector-general? Then, again, afloat, who selects the place and makes the general arrangements for the wounded in case of action—I mean in arrangements at the general quarters on every Friday? Why, of course, the captain; or if, as sometimes happens—it has on more than one occasion in my own experience—he deputes his executive officer, most likely a young lieutenant, years junior to the medical officer. This, surely, is not the proper state of affairs. The medical officer is most probably snubbed if he ventures to differ in opinion from the youth. I could add many other truthful facts to the above. I am, Sirs, yours faithfully,

August 7th, 1899. THIRTY YEARS' SERVICE.

*** Our correspondent probably overstates his case when he says that the Director-General has to wait in the reception room till called in and is then instructed by the Lords of the Admiralty "whom to nominate for certain billets" although, we think, there can be no doubt that in the case of the recent appointment to Haslar Hospital the recommendation of the Director-General was not adopted by the First Lord. We are certainly of opinion that the Director-General ought to have much more direct control over his department than he at present possesses.—ED. L.

PLAGUE IN HONG-KONG.

(FROM A CORRESPONDENT.)

PLAGUE is decreasing in Hong-Kong. There have been 72 cases and 75 deaths in the preceding seven days. Fewer cases have been found alive in this than in former epidemics probably because there has been this year less searching from house to house. Volunteer searchers have been lately asked for without much response on the part of the community. A stained glass window has been put up in the cathedral by the community of Hong-Kong in memory of Miss Higgin and Miss Ireland, nursing sisters in the Government Civil Hospital, who died last year from plague contracted in the execution of their duties. Plague is reported as being extremely bad in Pakhoi this year. Pakhoi is the seaport of the district (in the provinces of Kwang Si and Yunnan) where plague is endemic. Plague is said to be decreasing in Formosa, but there have been some 2500 cases of which about 75 per cent. only died. The Japanese are rarely attacked. There is fear that time-expired soldiers from Formosa may carry it into Japan.

July 15th.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Renewed Development of the Plague Epidemic.—The Danger to Europe.—Fungus Culture against Locusts.

SINCE writing last week the plague has developed in Poona to a frightful extent, and the mortality during the past week has been in proportion to the population twice as high as ever occurred in Bombay. The people are leaving by thousands. In Bombay city the plague still lingers and 62 deaths occurred last week. At Belgaum also there has been an outburst, and 447 deaths were reported. Further increases are also reported from Nasik, Satara, and Kolapur. In other parts of India the plague seems for the present to be subdued. The Madras Presidency only returns eight deaths, the Mysore State 19 deaths, and the Bengal Presidency only three deaths.

Plague has apparently obtained a firm grip in Mauritius and has infected the neighbouring island of Réunion. It is curious how little importance has been attached to the outbreak at Bushire when it is borne in mind that plague in times past has always entered Europe by way of the Caspian and the Black Sea. It is reported that the type of cases at Bushire is mild, but there are no signs of the disappearance of the disease. As in India, there is an attempt to conceal the truth concerning the cases by the native population. It is stated that if the Persian Government enforces strict repressive measures at Bushire there will be trouble with the populace, and the Persian Government appears not to have the strength to support its own mandates. As far as can be ascertained Bushire was infected by a pilgrim ship from Jeddah and not from India.

Cases of jigger seem to arrive at Bombay by almost every ship from Zanzibar, but the crews are very carefully inspected and the patients are immediately drafted off to the hospital.

The Imperial Bacteriologist in India reports that he has recently obtained from South Africa a culture of the fungus which is said to have been found very efficacious in destroying the swarms of locusts in that country and he has requested that district and other officers may be apprised of the fact that cultures with instructions as to their use will be supplied on application.

July 26th.

BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

Important Insurance Case.

AT the recent Birmingham Assizes an action involving details of considerable importance was tried before Mr. Justice Channell. Some insurance companies sought to set aside the policies effected to the extent of £15,000 upon the life of a gentleman, a coal-merchant, upon the ground of fraudulent misrepresentation and non-declaration of facts. In the evidence the depositions of a witness were read to the effect that the deceased boasted that he had been examined by a new medical man who had found nothing wrong with him and that he—the deceased—was not going to tell the medical man anything. Expert evidence was also given as to the symptoms of angina pectoris, from which the deceased died, and also as to his state of health for 50 years past. On the death it was stated that the family objected to a post-mortem examination being made and the coroner did not see sufficient reason to hold an inquest. Sir Edward Clarke engaged in an active cross-examination on behalf of the companies concerned and elicited important facts as to the occurrence of previous fainting fits and attacks of giddiness on the part of the insured as well as circumstances of financial position. In the end the jury held that the defendant had no insurable interest in his father, and in consequence of this and certain errors and omissions in the original declaration the policy was rendered invalid. On the question of law it is, I believe, understood that it is not legal for a person not having an "insurable interest" to insure another's life. It was not actually stated that the son did insure his father's life, but only that he became responsible for the premiums. Certain it is, however, that had the nature of the illnesses from which the deceased suffered at times been accurately known it would have had a strong determining influence upon the insurance companies. It is this which points to the necessity of extreme care in the medical examination of proposers for life insurance and the value of precise investigation.

The Proposed Consultative Institution.

Matters with regard to the arrangements proposed for the purpose of carrying out this scheme do not appear to move rapidly or to get much more forward. Alderman Cook, the chairman of the Hospital Saturday movement, suggested that a list should be prepared of consultants who are willing to see patients for half a guinea. Dr. Saundby, on behalf of the profession, replies that nothing of the sort was promised and that practically there are consultants who are willing to do so. It seems that philanthropy and business do not mix very well together in the details. Objection is made to any system of examination as to fitness of the applicants from social position; the working-man prefers to be independent and with his half-guinea to elect to whom he should go without inquiry. A little more discussion and recrimination will be likely to see the scheme at a standstill.

Death under Chloroform.

A child, 15 weeks old, a patient at the Children's Hospital, was the subject of a coroner's inquest on August 3rd. The

child having to undergo an operation was put under the influence of chloroform and died in two minutes. At the inquest Mr. W. Thomas stated that since the opening of the Children's Hospital 14,500 operations under anæsthetics had been performed and that this was the first death. This is a meritorious record, showing that extreme care had always been used and also that children possess more than an average immunity to the effects of chloroform.

Staircases without Handrails.

Staircases without handrails are stated by the coroner to be a frequent source of death and there are thousands of houses in Birmingham in this condition. This is a point to which attention may properly be called.

August 15th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Annual Report of the Medical Faculty of University College, Liverpool: Honour for Professor Sherrington.

THE annual report of the medical faculty states that the number of students attending classes in the winter session 1898–99 was 188. In 1896–97 and 1897–98 respectively the numbers were 155 and 169. The new entries this year were 88—54 medicals, 19 dentals, and 15 for special courses. During the previous winter there were 71 new entries—49 medicals, 11 dentals, and 11 for special courses. During the present summer the total numbers have been 144, including 12 new entries and five new entries for special courses. Last summer the total was 148, including eight new entries and six for special courses. The improved facilities for the diploma of public health work provided by the museum and school of hygiene resulted in a considerable addition to the number of public health students last winter. The changes in the dental curriculum and the improvement in the arrangements at the Dental Hospital and Medical School have caused a large increase in the number of dental students. It is pleasing to find the examination results creditable to all departments. 142 students have passed professional examinations (as against 118 last year), one science, 127 medical, and 14 dental. Of the medical, 72 have passed University examinations (60 at the Victoria University, seven at the London University, and five at other universities); 56 have passed various examinations of the English or Scottish corporations; and 28 have received their qualifications (as against 26 last year), 11 at the universities and 17 from the licensing bodies. Of dental students, 11 have become qualified (as against eight last year) and three have passed an intermediate examination for the L.D.S. The outlay incurred during the past three years in the outdoor midwifery department is now bearing fruit. The winter session will be opened on Oct. 14th by the Rev. S. A. Thompson-Yates, M.A. (the generous donor of the laboratories bearing that name), who will deliver the inaugural address and distribute the scholarships, medals, and prizes for the previous session. Dr. Charles Scott Sherrington, F.R.S., the professor of physiology and histology, has gained the Baly gold medal for his researches on physiology during the past two years. The medal is awarded by the Royal College of Physicians of London. Professor Sherrington has had a distinguished career. He graduated at the University of Cambridge as Doctor of Medicine in 1892 and gained a Fellowship at Gonville and Caius College. He is a member of the councils of many medical and scientific research societies and has done good work at Liverpool since his appointment to the professorship of physiology.

The Cancer and Skin Hospital: Resignation of the Committee.

A special meeting of the subscribers to this charity was held on August 10th to receive the resignations of the committee, as foreshadowed in THE LANCET of August 5th. The resignations were accepted by the subscribers who proceeded to the election of a new committee. Mr. William Rathbone expressed the hope that the new committee would find some means of enabling the hospital to regain, and to retain, the confidence which it at the present moment appeared to have lost. Otherwise he thought a great many of them would be obliged to withdraw their subscriptions at the end of the present year.

High Death-rate Among Infants in Liverpool.

The medical officer of health (Dr. E. W. Hope) in his report to the Health Committee deplores the present high death-rate among infants below one year of age. The infant mortality was mainly due to diarrhœa, a disease eminently fatal to children, with whom it had all the characteristics of cholera. Inquiry by the sanitary inspectors proved that it was associated in nearly every case with domestic distress and improper feeding. The mortality was not worst in the slums, where mothers, as a rule, fed their children naturally, but in artisan districts and among the class slightly better off who more commonly resorted to artificial feeding. The department was doing all it could by the issue of posters and pamphlets of simple instructions to check this sacrifice of infant life. Dr. Hope feared that until the Health Committee obtained some power to deal with the improper feeding of children the deplored mortality would continue.

August 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Glasgow Infirmaries.

THE Western Infirmary will soon be able to show a new and greatly improved out-patient department. The old building has for some time proved itself too small for the demands made upon it and the work has only been accomplished with considerable inconvenience alike to the staff, the students, and the patients. All will therefore welcome the change to the new dispensary which will offer more commodious consulting-rooms and a fully-equipped electrical department, dark-room, &c. The special departments of practice are to have every arrangement necessary to secure efficiency both for work and teaching. The managers are to be congratulated on their determination thus to meet the wants of the modern medical student who is more and more alive to the necessity of being furnished with practical knowledge and skill in all the departments of practice. In addition to the out-patient department the new building will have two wards for the reception of cases of skin disease. This will leave additional accommodation for medical cases in the main building, and in this way certain schemes which caused considerable excitement in the medical world some two years ago may be carried out peacefully and without any attendant "excursions and alarums." The Royal Infirmary has not yet commenced to reconstruct itself. Unfortunately, there seem to have been repeated delays and difficulties in connexion with the plans and when it is remembered that the Reconstruction Committee, the board of managers, and the medical staff have each to be satisfied it is not difficult to understand that opportunities for postponement are multiplied. There is, however, reason to believe that a satisfactory adjustment is now in view. Naturally there is much interest taken in the welfare of the institution which is the city's oldest medical charity. At the Royal Hospital for Sick Children the managers have appointed Mr. George H. Edington, M.D. Glasg., M.R.C.S. Eng., to be honorary extra-surgeon to the dispensary.

August 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Order of St. John of Jerusalem.

THE Queen has been pleased to sanction the appointment of Dr. Samuel T. Gordon as an Associate of the Order of the Hospital of St. John of Jerusalem in England and to permit him to accept and wear the decoration pertaining to that rank of the Order. Dr. Gordon is surgeon to the Royal Irish Constabulary and has the Turkish and Zulu war medals.

Clare Lunatic Asylum.

A specially convened meeting of the board of governors of the Clare Lunatic Asylum was held at Ennis on August 14th for the purpose of appointing a resident medical superintendent. Much interest was taken in the election, there being no less than five candidates, all very well-known

medical men. Mr. F. O'Mara of the Limerick Lunatic Asylum was ultimately appointed.

The Blind of Ireland.

At a meeting of the Dublin Corporation held on August 14th a deputation was received from the Dublin Branch of the National League for the Blind in reference to the subject of State-aid. Mr. McDonald, in introducing the deputation, said that he spoke on the part of the 6000 blind persons in Ireland for whose assistance the late Royal Commission appointed to inquire into the condition of the blind of the United Kingdom had reported unanimously that early legislation was required.

The Guardians and Medical Officers' Vacation.

A great deal of unnecessary friction is at present taking place between the Local Government Board in Ireland and the guardians of the urban and city councils. The central controlling body in Dublin passed a rule, known as 28 of the dispensary rules, by which they allowed medical dispensary officers the right of one month's holiday, the guardians to pay a substitute. These bodies are trying in various ways to evade this rule by endeavouring to shorten the holiday to two weeks and by refusing to pay the recognised fee for a locum-tenent. I am pleased to find that the Local Government Board are showing a firm front and that although, as in some cases (Antrim, Belfast, &c.), the guardians have attempted to hold to the two weeks' vacation the Local Government Board are making it mandatory on the guardians to sanction the full month. It is preposterous this attempt on the part of the guardians to "sweat" their medical officers and I trust the Local Government Board will keep firm on the matter. The guardians are also in many places, on the death or resignation of a dispensary medical officer, making a great effort to lower the salary, although the amount of work remains the same. Under such circumstances the only real weapon to fight such miserable tactics is combination on the part of medical men not to apply for any appointment where the salary has been lowered in this way.

The Services Examinations.

At the recent examination in London for commissions in the Royal Army Medical Corps Mr. F. Irvine, M.B., attained second place; while Mr. J. W. D. Megan, M.B., and Mr. R. Steen, M.B., obtained third and fifth places at the examination for the Indian Medical Service. All these gentlemen are from the Belfast Medical School.

Study of Tropical Diseases.

The council of Queen's College, Belfast, having received a communication from the Colonial Secretary, Mr. Chamberlain, as to the advisability of establishing a special department for giving instruction in the diseases of tropical countries to such students of medicine as contemplate entering the colonial service of the State, have decided, with the sanction of the Lord Lieutenant of Ireland, to appoint a lecturer on tropical diseases. In addition to serving the special purpose primarily intended to be met by its establishment it will afford to such of the students as intend to become medical missionaries an opportunity of familiarising themselves with the diagnosis and treatment of tropical diseases. This is the sixth new department established in the College within the last seven years.

The Disposal of Lunatics in Ireland.

The question of the location of lunatics in Ireland is still being discussed. At a meeting of the County Armagh Asylum Board (held on August 14th) a resolution was passed to the effect that although the board had never refused admission to patients sent there from workhouses and certified as having become dangerous they were obliged to exercise discretion in the admission of others owing to the congested condition of the asylum. The board was of opinion that steps should be taken to set apart some of the workhouses for the reception of harmless lunatics. The governors of the Belfast Asylum have decided to hold a special meeting to formulate a scheme for the consideration of the city corporation for a settlement of the question of how to deal with the lunatics now resident in the workhouse.

August 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Exophthalmic Goitre treated by Injections of Iodoform Solution.

ONE of the most interesting communications made to the Congress of Medicine at Lille was that by Professor Pitres of Bordeaux, reporting that he had given up using injections of tincture of iodine in treating exophthalmic goitre. This method gives good results in simple goitre but it is liable to bring on abscesses in the exophthalmic variety. Professor Pitres now makes use of injections of an iodoform solution in ether. He injects one cubic centimetre into the tissues of the goitre at intervals of about eight days. The injections must not be made more frequently on account of the swelling provoked in the gland which lasts for some days. The pain caused is acute, but it only lasts for some 12 minutes. In a very short time after the first injection the nervous symptoms cease, sleep returns, the gland hardens little by little, becomes smaller, and the exophthalmos disappears. The patient continues to suffer for some time from cardiac irritability, but the arterial pulsations diminish and the sensations of palpitation disappear. Professor Pitres has treated 12 patients, but in only six of these has he followed up the results enough to draw conclusions of value. These six have remained well for over two years and none of the 120 injections carried out upon them was followed by any untoward result.

The Hygiene of Railways.

For a long time past hygienists in France have been complaining of the insufficiency of hygienic precautions taken by the railway companies—a lack of precaution which is all the more dangerous inasmuch as the number of people who travel is daily increasing. A preliminary circular has been sent out by the Minister of Public Works at the instance of the Committee of Hygiene suggesting to the railway companies that they should wash the floors of carriages and waiting-rooms every day with some antiseptic solution, and that a notice should be posted in carriages and other public places forbidding people to spit on the floor as is at present the custom in all the chief towns. These measures were particularly recommended for the suburban lines which carry a large number of workmen every day. The railway companies, however, have taken no notice of the circular and owing to numerous representations in the medical journals the Minister has just sent to the railway companies a more pressing circular than the first and has organised a system of *surveillance* so as to see in what manner his instructions are carried out. It is to be hoped that these measures may be carried out equally on board steamers. It is fair to state that the Paris, Lyons, and Mediterranean Railway Company has brought about real progress in sleeping cars going to Nice which so frequently carry tuberculous patients.

Death of Professor Balbiani.

Professor Balbiani has just died at Meudon at the age of 75 years. As Professor of Comparative Embryology at the College of France he was formerly assistant to Claude Bernard at the Museum. Although descended from an Italian family he was born at Havana, and pursued his medical studies at Frankfort-on-the-Main before going to Paris. His reputation was world-wide and he leaves a considerable number of works, of which the best known deal with the constitution of the egg, the embryonic vesicle, cellular division, the reproductive process in infusoria and aphides, and silkworm disease. He had been many times a laureate of the Institute, but despite most pressing invitations on all hands he never presented himself as a candidate at the Institute or Academy of Medicine where he would certainly have been elected. He wished only to be a member of the Society of Biology, of which he was one of the oldest and most industrious members. Besides, for many years past he did not himself lecture but devoted his time more and more exclusively to the laboratory altogether, leaving his lecture work, as unfortunately is too frequently the case as regards the College of France, to his assistant, Dr. Hennegy. Professor Balbiani was, with Professor Ranvier, editor of the *Archives d'Anatomie Microscopique*. It is probable that in accordance with the usual custom his assistant, Dr. Hennegy, will succeed him in the chair.

August 14th.

ROME.

(FROM OUR OWN CORRESPONDENT.)

An Italian Eulogy of Physical Education in the United States.

YOUR American cousins have reason to be proud of the estimate just given by an Italian biologist of their system of physical education. The biologist referred to is no other than the Professor of Physiology at Turin, Dr. Angelo Mosso, of whom it has justly been said that "he has done more perhaps than any man living to elevate mountaineering out of the merely physical and emotional sphere into the rational and scientific." Professor Mosso, as your readers are aware,[1] has recently been assisting at the decennial festivities of the Clark University at Worcester, Massachusetts, where he delivered—by request in the German language which is as familiar to him as Latin—an address on the "Relation of Muscular Exercise to the Development of the Mental Powers." From Worcester he passed to Boston as the guest of his old friend and brother "Alpinist" Dr. C. S. Minot, Professor of Histology and Embryology at Harvard, and while there he made a minute study of the system of physical education particularly as carried out at the athletic clubs of the American seats of learning. He has just conveyed his impressions of that system in a letter to Professor Bertoni of Modena. Beginning with Michigan University, better known as Ann Arbor, he notes the fact that with its 11,000 inhabitants that town has in connexion with its school two great gymnasia, one for women and one for men, the former alone being four times larger than that of the University of Turin and in all respects superior. "In Italy," he says, "we have in no city a theatre or a covered area so commodious. ..... On the lower floor it has a 'vasca' (pool) for swimming, the water of which is warmed in winter. ..... Outside the gymnasium and around it are two lawn tennis courts for the professors and *privat-docents*, four other lawn tennis courts for the students, and a spacious park for other games requiring a wider area." Referring to the Boston gymnasium after the Michigan "palestre" (exercising halls) he says: "The interest and the wonder with which these academic adjuncts inspire me awaken a sense of melancholy when I think how far we in Italy are removed from such perfection. It is enough," he adds, "to look at the passers-by in the American streets to be convinced how much more developed and strong they are than our compatriots. The boys and girls are in point of physique far superior to ours. All the public take interest in physical exercises—every journal being compelled to report athletic competitions, regattas, football encounters, golf matches, and such like, because its readers have even a greater enthusiasm for those topics than for the strife of parties. America teaches us, by the plainest and most impressive of examples, that physical education may be carried to perfection without any military object. In the States no one dreams of becoming a soldier. If military force is required it is provided, as in Great Britain, by voluntary enlistment. Nevertheless, America and the British Isles are precisely the two countries where physical education has reached its highest development. My admiration for this New World is all the greater when I reflect that its civilisation is that of the future, which even for Italy will have better days in store." To accelerate the advent of these days no Italian is so well qualified as Professor Mosso or so well fitted to be an "internuncius" between the New World and the older of European ones. For many years, indeed, he has been in intimate and sympathetic touch with the leaders of the profession in the States, many of whom have been his guests in Turin and his "bons camarades" on Alpine ascents not a few. In this connexion I may repeat an anecdote which has been going the round of the Italian press. Professor C. S. Minot, on his first visit to Turin, where he stayed with Professor Mosso, accompanied his host on a visit to a glacier many thousand feet above sea-level. So delighted were they with their experience that they agreed to meet there, after a year's interval, on the same day, at the same hour, and on the identical spot. They were as good as their word, and Professor Mosso, the first to arrive, was just raising his field-glass to his eyes to look out for his transatlantic friend when, sure enough, there was Professor Minot rapidly clearing the space between them and holding out his watch to show that, "if second at the rendezvous, he was not a minute behind time."

Dr. Koch's Studies in Malaria.

Since the close of April Dr. Koch has been in the Tuscan Maremma prosecuting the studies in malaria which he began in Italy last September. His headquarters were at Grosseto, where the prefect placed every facility at the disposal of the distinguished bacteriologist and his assistants, while the Government lent its aid through the Army Medical Department which gave them access to the military hospitals. Professor Gosio, director of laboratories under the Board of Public Health, was also particularly helpful, and the local Congregazione di Carità fitted up a room in its hospital as a "gabinetto scientifico" for Dr. Koch's special use. In the hospitals referred to, civil and military, he has had 400 patients, all of them characteristic cases of malarial fever, under observation and treatment, the results of which will be shortly made accessible in a minutely detailed report. He left Grosseto last week after a busy sojourn, including 50 days' effective work.

August 14th.

[1] THE LANCET, July 1st, p. 60, and July 29th, p. 311.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Vital Statistics of New South Wales.

THE fifth part of the statistical register for New South Wales for 1898 has been recently published. The number of births during the year was 32,222, the lowest number recorded since 1885, in which year the population was 400,000 odd less, showing a lowering of the birth-rate in 14 years from 37·79 to 27·13 per 1000 living. While the total birth-rate has decreased that of illegitimate children has increased and is now 6·93 per 100 births. The death-rate for the year is 12·47 per 1000 of population, which is slightly in excess of that for the previous four years but about equal to the mean death-rate for the last 10 years. The death-rate for children under one year of age was 121·9 per 1000 births, the highest since 1889, and 37·51 per cent. of the total deaths were those of children under five years of age. The *Australasian Medical Gazette*, in an editorial article commenting on these figures, remarks: "Why, in the face of this, do we shut our eyes to the fact that the abortionist and the baby farmer are abroad in our midst? ..... Is New South Wales destined to become another France and the scorn of the civilised world?" It is suggested that an Act of Parliament should be passed to prevent the dissemination of indecent literature, especially the advertisements of the "specialist who removes obstructions" and the "kind lady who adopts babies from birth."

The Health of the Hunter River District, New South Wales.

The local sanitary authorities in the combined districts known as Hunter River (New South Wales) have received the first report from the medical officer of health, Dr. Robert Dick, since his appointment under the Health Act. The report is an exhaustive document and is satisfactory as to the general health of the district. Of notifiable diseases 445 cases of scarlet fever, 118 cases of diphtheria and 272 cases of typhoid fever were reported during the year 1898. It is found that less than 1 per cent. of the children born in the district have been vaccinated and Dr. Dick remarks: "We require something more than the system now relied on if we hope to be in a position to effectively deal with small-pox. Each year we are drifting into a worse condition, from the fact that the number of vaccinated and re-vaccinated individuals is getting less and less, and therefore the number of susceptible people is increasing."

Disposal of Refuse in Sydney.

A committee of the City Council of Sydney appointed to inquire into the best method of disposing of the city refuse recently sent in a report. At present the system in use is to collect the refuse in carts and "tip" it on some land at Moore Park, at an annual cost of about £35,000. Four distinct proposals were submitted for dealing with the garbage: (1) burial, with thorough mixing with sand and complete covering; (2) burning in destructors; (3) treatment by steam and the extraction of grease and manurial products; and (4) towage to sea. The committee recommended that all refuse and garbage should be absolutely destroyed, and

that whatever might be the method finally approved provision should be made for prohibiting picking and sorting. They thought that the most effective system of destruction was by fire, but they did not recommend any particular destructor at present; a disinfecting chamber should be provided and worked in connexion with every garbage destructor erected. The committee thought that Sydney possessed many advantages for the adoption of towage to sea which were not possessed by many European towns where it is in use and the method could be carried out at small cost, but the objections outweighed the advantages.

Treatment of Inebriates.

In the *Australasian Medical Gazette* for June is a very interesting and exhaustive paper by Dr. F. Norton Manning on the Immediate and Ultimate Treatment of the Inebriate. He contends that the treatment of the confirmed inebriate has thus far been very largely a failure. Isolated cases of success have occurred under all forms of treatment, but "the great mass of the inebriates are none the better for the care and the money expended on them." He considers that of all the methods adopted the hospital for the insane has been on the whole the most successful, carrying with it compulsory confinement, under rigid *régime* with work, but it is equally recognised that an institution for the insane is not a fit place for the average inebriate. The various legislative enactments dealing with the inebriate were then reviewed and criticised and all were found to be inefficient in some respect. The best model was that of the State of Massachusetts, where there is a hospital to which inebriates can be committed for terms not exceeding two years. In connexion with it are a large farm and workshops and it is on such lines that treatment should be carried on, affording occupation and exercise under medical supervision. Dr. Manning holds that the inebriate has had too much leniency in the past. Too much has been made of hereditary tendencies, his weakness has been regarded as venial, and he has been too much shielded from the consequences of his words and deeds. He must be held responsible and he must be shut up and treated judiciously until he becomes so, and provision must be made by law for long periods of compulsory sequestration in institutions specially designed for the object in view.

The Melbourne Hospital and Contributions from Patients.

The Treasurer of the Victorian Government recently issued a circular to hospitals receiving Government aid, requesting the managers of these institutions to make provision for contributions being paid by patients. In consequence the committee of the Melbourne Hospital have made rules under which in-patients are asked to contribute weekly sums according to their means and to sign a declaration of their position and circumstances. Out-patients are charged a regular sum of one shilling. The action of the committee has been severely criticised both by the public and by leading members of the medical and surgical staff of the hospital.

Death of Dr. J. F. McAllister.

The untimely death of Dr. J. F. McAllister has taken from the Sydney Medical School one of its most rising and useful teachers. Dr. McAllister was a native of Ballarat, Victoria, and received his medical education at the Melbourne University where he took the degree of M.D. Soon after graduating as M.B. he was appointed resident medical officer to the Prince Alfred Hospital, Sydney, and then he held the position of medical superintendent. On resigning that position he was elected honorary assistant surgeon and surgical tutor and finally full surgeon and lecturer on clinical surgery. His abilities as a surgeon were soon recognised by the public as well as by the profession and, combined with his general personal qualities, secured him a large practice. He fell a victim to a rapid tuberculosis and was only 35 years of age at the time of his death. He leaves a widow and one child.

A Resignation and an Appointment.

Dr. C. H. Molloy, who has been for the last nine years medical superintendent of the Melbourne Hospital, has resigned the position owing to continued ill health. He has been very popular with the profession and with the public and his resignation was received with much regret.—Mr. C. G. Godfrey, junior medical officer at the Yarra Bend Hospital for the Insane, has been appointed assistant to the Government Medical Officer of Victoria.

July 3rd.

THE

BRITISH MEDICAL ASSOCIATION.

MEETING AT PORTSMOUTH.

THE SECTIONS.

MEDICINE.

THURSDAY, AUGUST 3RD.

PROFESSOR CLIFFORD ALLBUTT (Cambridge) opened a discussion on

The Preventive and Remedial Treatment of Tuberculosis.

In order to deal adequately with the subject of treatment of tuberculosis, he said, it would be necessary to refer to its anatomy, pathology, and modes of infection and as far as time permitted he would deal with the subject under four headings—(1) infection; (2) anatomy; (3) diagnosis of the early stages; and (4) treatment, preventive and remedial. His remarks would be entirely confined to the disease in adults, for the course of pulmonary tuberculosis in children was very different from that in the adult and required separate consideration. The first and most important fact was this, that if pulmonary tuberculosis was to be cured it must be taken in hand in quite the early stage. In that stage a cure of 80 per cent. or 90 per cent. of the cases was possible under favourable circumstances; but when physical signs became obvious the proportion of cures dropped by 50 per cent. Adverting to the origin of the germ theory of disease and Koch's researches into the bacillus anthracis, that observer's discovery of the tubercle bacillus and its far-reaching effects were referred to. It was very necessary to emphasise the unity of all forms of pulmonary tuberculosis. Charcot maintained that unity long ago—long before the discovery of the bacillus—but he stood almost alone at that time. Now it was known that there was no essential difference between catarrh of the apex, caseous pneumonia, and interstitial tuberculosis, all of which were varieties of pulmonary tuberculosis, and it was to be hoped that such terms would be omitted in the future. Caseous broncho-pneumonia and some other forms of chronic pneumonia were only tuberculosis under another name and they had no value apart from tubercle. Thus it was that they were only now coming back to the views of Charcot, Baumgarten, and Laennec. "Is phthisis catching?" was another most important question. In a sense undoubtedly it was so, but only in a limited sense. It was very curious that this idea only found favour at first among the Italians before the bacillus was discovered, although a few English physicians credited it. Many, even in the present day, were very sceptical and asked with much force how it was that nurses attending on patients suffering from phthisis did not catch the disease, and how was it that in a sanatorium full of patients where 270 friends of the patients lived with them continuously not one of the latter caught the disease. The fact was that ordinarily it could not be taken, or if introduced the bacillus would not grow unless the soil was suitable. This bacillus could not live for any length of time away from its host; as a saprophyte it was very short lived. It was true that kept in tenacious glutinous sputum in a dark corner it might live for a few weeks, but exposure to dry air and sunlight killed it in a few hours. There seemed in this respect to be some gap in our knowledge, but it would appear that the tubercle bacillus must go very directly from person to person. The poison or infection might undoubtedly be intensified by many different causes, some of which we have yet to learn. Tissue proclivity and the proclivity of the individual undoubtedly played a very important part. It is doubtful if that is ever absent as a factor in the etiology even in the phthisis of diabetics. It was quite certain that the causation of the disease could not be summed up in the bacillus, valuable as its discovery had been; it was not even the immediate cause of the disease. All of those in the room probably had bacilli in their lungs, yet they would not all become tuberculous. There is a remarkable difference in the proclivity of different animals, such as the cow and the goat, the first is extremely vulnerable and the latter is hardly vulnerable at all. On the other hand, that proclivity was not in Professor Allbutt's opinion a factor in prognosis. All things considered, man would seem to have a strong

resisting power and that was probably why tubercle could not be considered contagious in the ordinary meaning of the word. Returning for one moment to the life-history of the microbe the heavy matter which sank to the bottom of the spittoon contained abundance of the bacilli. Flügge found that soiled rags were not so infectious as a spray formed of the deposit of the sputum. The bacillus, at any rate in a living form, could not be found universally, but only in the neighbourhood of tuberculous persons and animals. All these facts afforded reasonable grounds for the hope that some day, not very far distant, tubercle might be as rare in England as leprosy was at the present day. Professor Allbutt next went on to describe the researches of Birch-Hirschfeld who took casts of the "bronchial trees" in fusible metal. Photographs illustrative of these researches were also shown. Birch-Hirschfeld in that way showed that the bronchial tubes from the third to the fifth magnitude branched in a slightly spiral manner, and other facts which served to explain why it was that tubercle always began in the post-apical portion of the lung. That was, so to speak, a "dead end" of the pulmonary passages past which the current of air rushed but did not enter or change the contained atmosphere. Consequently, all forms of dust tended to collect there. Koch had demonstrated how extremely slow the bacillus was to establish itself, but in the conditions just named it had ample opportunity. It fixed itself on an abrasion of the lining membrane of the bronchi. Thus the very earliest start was a tuberculous endo-bronchitis, just as Charcot and Laennec had shown long ago. "Aspiration foci" formed as secondary foci in other parts of the lung and acinous masses formed in lymphatic tubercle (Koch), but the disease did not begin as an interstitial granuloma. It was the diagnosis of this initial stage of tuberculous endo-bronchitis to which all our efforts should be directed. Hæmoptysis always arose near the original nodule and after some slight effort on the part of the patient. The softened bronchus gave way and hæmorrhage took place into the lung substance. As a result of 4000 consecutive necropsies on persons of all ages, dying from all kinds of diseases, Birch-Hirschfeld found that 40 per cent. were, when carefully examined, suffering from tuberculous endo-bronchitis. Professor Allbutt expressed the belief that an enormous number of persons had this tuberculous endo-bronchitis without even being aware of it. The tuberculous material became encapsuled, so that it could not get out, and the disease did not spread. Turning to that most important practical point, Professor Allbutt could not for one moment subscribe to the dictum, "No bacillus, no phthisis." He had seen so many undoubted cases where a large number of the most carefully conducted examinations had entirely failed to discover the bacillus that he could not believe in such a proposition. It should undoubtedly always be looked for and repeated search should be made, because its presence in the sputum was conclusive, but its absence told us nothing. The means on which he relied were clinical. The patient should be stripped and seated on a cane-bottom chair away from cushions or blankets which deadened the sounds. Dulness on percussion was only sometimes obtainable at this stage, though slight impairment might be detected. As regards the auscultatory signs he had not much faith in the "cogwheel respiration" to which some observers attached so much importance; but he believed strongly in certain local changes in the quality of the respiration which he could only describe as "weak breathing." If that was combined with harsh breathing in another spot they formed almost certain grounds for diagnosis. In some a pleuritic rub could be heard at the back of the apex and he had noticed that such cases often did badly, perhaps because it indicated lymphatic tuberculosis. It was not a sign of tuberculous endo-bronchitis. The temperature should be taken every two hours (every four hours was not often enough) and it would invariably show a disposition to go up at night, or in the morning if there was an inverted rise. Sometimes exercise would send up the temperature. (Charts were here exhibited showing that in some cases a premenstrual rise of the temperature might indicate early phthisis.) The Roentgen rays could not, Professor Allbutt thought, be of much use in diagnosing so small a focus of disease. Speaking of the use of the old tuberculin he thought it might be of use for diagnosis, and no danger or harm could result if the patient were kept in bed as long as any reaction could arise. The phenomenon of "clumping," he was informed on good authority, was too complicated and open to too many fallacies to be of general application. The subject of treatment would no doubt be discussed in full detail, but as regards sanatoria he thought they had done a great deal in reducing the treatment to a system. There was nothing new in the methods adopted at sanatoria and nothing much which could not be done in the patient's home if it were reasonably hygienic. A liberal diet, ample fresh air, and cleanliness were the principles involved and the advantage which sanatoria offered was that the treatment was reduced to an organised system. A great deal depended on gaining a personal ascendancy over the sufferer from phthisis so as to insure that the patient should carry out all the minutest details of the treatment. For patients under 35 years of age he thought that high altitudes were better than sanatoria.

Sir WILLIAM BROADBENT (London) said that he was sorry he could not agree with Professor Clifford Allbutt in the statement that proclivity had no bearing on the prognosis of a given case. If that were so, how were they to explain why one case went to the bad and another did not? It could not be the number or quality of the bacilli. As regards the earliest clinical evidences he thought that the temperature was certainly the most valuable. That was especially so in cases of phthisis *ab hæmoptöe*. After a hæmorrhage from the lungs the evening temperature was the whole question. Among the physical signs he regarded two as of great value: (1) an occasional single sibilant râle at the apex and (2) myoidema, which was practically never absent in early phthisis. He quite agreed that the chief advantage of sanatoria lay in the fact that the individual as well as the disease could be controlled and that cases could be more closely and constantly observed. Phthisis exposed a person to the attacks of other organisms which became grafted on to the tuberculosis, and thus complications arose. In sanatoria these could be recognised early and grappled with.

Sir R. DOUGLAS POWELL (London) quite endorsed the view that physical signs appeared in many cases long before bacilli could be discovered though in other cases it was the reverse. In many cases, however, it was a matter of indifference whether they were found or not. He believed that many cases of phthisis presented mixed infections and thus complications of many kinds arose, and in this respect only sanatoria offered a real advance in the treatment of the disease. For patients who had a level-headed medical practitioner to treat them and a cleanly and luxurious house to live in the sanatorium might not be necessary. But to many people without these and with only a moderate income sanatoria were a perfect boon. Among the indications of a badly kept house which had been referred to he would like to mention the common house-fly. Where flies were abundant one might be sure that garbage and dust also abounded. In phthisis the digestion required carefully watching, especially with overfeeding, and there again the sanatorium had an advantage. Here also people learned the discipline of "illness." In going over a well-managed sanatorium where the medical officer was full of enthusiasm, devoting his whole time to his patients, nothing struck one more than the absence of the perpetual cough. This was an instance of the discipline referred to. As regards early diagnosis he would lay more stress on the temperature (which should be taken every two hours) than on physical signs. The tuberculin test was of some value and in all suspicious cases the sputum should be examined again and again. He had sometimes been successful after 20, 28, and even 30 failures. The prime factor in treatment was to obtain complete control of the patient and parcel out each day and each day's food. Persistent rest was of great value in many cases.

Dr. JAMES TYSON (Philadelphia) referred to the death statistics in America as showing what modern methods of treatment had accomplished. Deaths from phthisis as compared with deaths from all causes had been reduced by 8 per cent. in the 10 years ending 1889, and by 9 per cent. in the 10 years ending 1899. The causes to which he attributed this reduction were three in number: (1) prophylaxis, and especially the disinfection and destruction of the sputum; (2) climate—such as that of Colorado—which had done a great deal for the people of the United States; and (3) isolation and treatment in sanatoria, though in this respect the Americans were much behind some European nations.

The adjournment of the debate until Friday, August 4th, was moved by Dr. SHINGLETON SMITH (Clifton).

Dr. WILLIAM EWART (London) read a paper on

The Pre-balneal Treatment of Heart Disease by Inhalations of Carbonic Acid and the Uses of the Inhalation in Cardiac Dyspnœa and Anginoid Pain.

The treatment carried out during the last two years, said Dr. Ewart, consisted in the inhalation of carbonic acid for varying periods (from five to 20 or 30 minutes) three or four times daily in cases of insufficient compensation with heart hurry, cardiac dyspnœa, angina, or cardiac pain; and in cardiac neuroses or neurasthenia at stages when the Nauheim treatment was inapplicable. Carbonic acid, as was well known, was harmless when it was inhaled for limited periods in a proportion of less than 15 per cent. The remedy could be administered without any risk and the dose could be regulated with ease by watching the bubbling of the gas through the water of a wash-bottle. There had been but few cases in which it had not afforded relief either when inhaled alone or in association with oxygen. As implied by the title of the paper the treatment was in many cases a preliminary to the Nauheim treatment, for which it prepared the way when it was used either independently or in association with medicinal adjuncts. It was a test of the suitability of doubtful cases for a course of the baths, and in some cases which were absolutely unsuitable for any stronger measures it was a valuable substitute and instalment of treatment. When cases had so far improved as to be submitted to the Nauheim treatment the inhalation as a separate measure became superfluous but carbonic acid continued to be inhaled in a modified way in connexion with the baths. The action exercised upon the rate and strength of the pulse being relatively slight the inhalation of carbonic acid was specially welcome in the treatment of aortic regurgitation, of mitral stenosis, of cases with four valvular murmurs, and in anginoid conditions or angina where digitalis was either inadmissible or subject to caution. Notes of some of the cases which had derived benefit were submitted with the paper.

Dr. HARRY CAMPBELL (London) read a paper on

The Enlargements of the Chest in Emphysema and its Treatment.

He attributed the enlargement to over-action of the inspiratory muscles due to diminished pulmonary elasticity and to breathlessness, this latter exciting the inspiratory muscles more than the expiratory. The fixity of the chest he held to be due to a shortening of the respiratory muscles similar to the shortening that occurred in talipes from long-continued over-exertion of certain muscles. As regards treatment precautions should be taken to preserve the elasticity of the lungs, to guard against breathlessness and over-action of the inspiratory muscles, and the patient should be taught expiratory exercises.

Mr. J. F. BRISCOE (Alton) read a paper on

The Practice of Blood-letting.

in which he strongly advocated that the practice should be taught in the medical schools and that there should be regulations and rules laid down on which the practice should be based. He deprecated the promiscuous use of blood-letting. In local bleeding for the treatment of an organ that was deeply seated he laid particular stress on the error of blood-letting where there was not a distinct capillary connexion between the surface and the organ beneath, as in the case of the kidneys. He considered bleeding to be of great service in convulsions, in poisoning from irrespirable gases, in the last stages of asphyxia, and whenever the right cavities of the heart became much distended while the left cavities were comparatively empty.

FRIDAY, AUGUST 4TH.

Dr. SHINGLETON SMITH, in resuming the discussion on

The Preventive and Remedial Treatment of Tuberculosis,

wished to enter a protest against the initiation of any active steps in the direction of quarantine such as might happen if notification came into force. The contagion was completely under their control, but this control must be carried out by the medical attendant with as little annoyance as possible to the patient and patients should not be harassed too much about the destruction of sputum. Dr. Shingleton Smith pointed out that the surgeon, the dermatologist, and the laryngologist had little difficulty in dealing successfully with localised tuberculosis, and he asked why the early patch of tuberculous endo-bronchitis could not also be localised by carrying out the same principles of local treatment—namely, by antiseptic injection into the lungs. Meanwhile, medicinal treatment, although often disappointing, was not so useless as was commonly represented. He thought that a great deal could be done at home both by hygienic and remedial treatment. The sanatorium treatment also gave grounds for great expectations in spite of the fact that fresh air could not be maintained to have any specific antitoxic action. They must look to the younger pathologists to find something which would produce in man that immunity which had been frequently demonstrated to exist in the guinea-pig. These were, he thought, the directions in which hope chiefly lay, and it was extremely desirable to have some substance which was lethal to the disease.

Sir HUGH BEEVOR (London) wished to direct attention to the overcrowded state of the dwellings of the poor which was the most conspicuous accompaniment of the high death-rate from phthisis among certain classes. According to the Registrar-General's returns nearly every ninth person of those who lived two or more in a room contracted phthisis. He quoted some statistics illustrated by diagrams showing that as regards London about one-tenth of the population—viz., persons under 10 years of age—who lived in the overcrowded districts, supplied one-third of the pulmonary consumption in the metropolis. Statistics collected by the medical officer of health of the London County Council proved conclusively that the bulk of the cases came from overcrowded districts. The problem, therefore, was not really so very large and it could be shown that if only 30,000 of the population of London were supplied with adequate living space it would remedy the evil of overcrowding and largely aid in the expulsion of phthisis from their midst. As regarded disinfection it had yet to be proved that it was capable of eradicating the disease. Isolated prisoners died from phthisis more than did those living in communities. Disinfection had been tried and had failed in the French army.

Dr. WOODS HUTCHINSON (University of Buffalo, U.S.A.) referred to the significance of the chest-form in phthisis. The normal chest of any animal was the product of its respiratory activity. The quadrupedal chest, being "flattened" at the sides by the forelimbs in their backward and forward swing, expanded chiefly by the diaphragm and flanks and thus became flattened from side to side. The erect or human chest, relieved of side-pressure by the rolling backwards of the shoulders and arms, began to expand bellows-fashion from before backwards, the anterior flap of the bellows moving most. The quadrupedal chest had an index (transverse diameter = 100) of from 120 to 140, while the normal adult human being, from measurements taken upon soldiers and students, had an index of 71. The tuberculous chest was usually described as flat, but measurements of 82 cases indicated an average index of 79·5, showing the chest to be round. The antero-posterior diameter was not only relatively but also absolutely increased, the normal measurement being 7·6 inches and in tuberculous persons 8·5 inches. The transverse diameter, on the other hand, was distinctly diminished. Attention must be paid to the following facts in seeking an answer to the question: Does this form of chest precede or succeed the disease? First, of 16 cases in the first stage the index was 79 3—only a fraction below the average of all the 82 cases. Secondly, the normal development of human chests was, according to the measurements taken, in a fœtus 103; in an infant under two years, 94; in children from two to nine years, 86; and in boys from 14 to 18 years, 81. Thus it would appear that the tuberculous chest was a chest arrested at the form which was normal between the fifteenth and twentieth years of age, i.e., the normal adolescent club. Of the 82 tuberculous chests only seven reached the normal index, and of the 50 soldiers' chests only 10 reached the tuberculous average. In view of these facts careful measurements of the diameters of the growing chest would be a valuable guide to at least a suspicion of the pre-tuberculous condition. The rounded chest (80 or more) represented a stage half-way between the quadrupedal (diaphragmatic) and the erect (costal) types of respiration. Tree-climbing and spear-throwing exercises produced a reversion to the arboreal and hunting habits of their remote and near ancestors and these would best carry the chest past this "dead-point." The more completely the shoulders

could be thrown backwards the more was the antero-posterior diameter increased, and this should be the object to be kept in view.

The PRESIDENT of the section said that he hesitated, in view of the large number of contributors to this discussion, to take part himself, but he felt constrained to do so because it was his duty to lay before the meeting a fact of the highest importance which related to the training-ships of the Royal navy. Out of an aggregate of 8065 boys trained on the home station 61 were invalided and four died from phthisis—that is, 8 per 1000. For purposes of comparison with this he had procured precisely similar figures for the whole force, including those in the training-ships just referred to. Thus out of a total of 43,900 men and boys, 205 were invalided because of phthisis and 15 died from it, a total of 220, or an attack-rate of 5 per 1000—i.e., a little over half of the attack-rate among the boys on the training-ships of the Home Station. When compared with the general population the comparison was equally striking, for taking the mortality alone it was only 2·53 per 1000. But the strangest part of these facts was this—viz., that all of these 65 boys had died or had been invalided for tuberculosis within a year or two of having been passed as physically perfect in every respect. Turning therefore to the question as to what was the cause of this tuberculosis they must certainly examine the surroundings under which these boys lived and especially the condition of their dwellings. For this purpose he had obtained figures relating on the one hand to the *Black Prince*, a fairly modern iron ship stationed at Queenstown, and on the other hand to the *Impregnable*, an old wooden ship at Plymouth. Out of 320 boys on the former seven had been invalided and two had died from all causes—a total of nine, or an attack-rate of 2 812 per cent. Out of 1545 boys on the *Impregnable* 66 were invalided and 11 died—an attack-rate of 4·98 per cent. Here, again, he found on inquiry that the main cause of invaliding in boys was "chest disease," and thus the attack-rate was nearly twice as high on the old wooden ship. This was not at all surprising when it was remembered how insanitary, ill-ventilated, damp, and impregnated with microbes these old wooden hulks were. The question of the quantity and quality of the food should also receive attention, but surely it was time something were done to remedy this state of affairs.

Dr. WILLIAM T. GARDNER (Bournemouth) said that in his experience very good results were obtainable in England even without a sanatorium. Several patients with marked pulmonary tuberculosis while waiting for a vacancy in the Nordrach or some other foreign sanatorium had been sent down to Bournemouth and he had induced them to follow out the open-air treatment at their houses. The great benefit which had at once set in showed that it had become unnecessary for them to follow out their original plan of going abroad. Photographs were shown of a *Liegenhalle* which he had designed and which could easily be erected in the garden.

Dr. A. R. PARSONS (Belfast) wished to emphasise the importance of examining the sputum for the tubercle bacillus. He believed it to be a most necessary procedure in all cases. He wished to distinguish between such cases and others in which the bacillus was not found. He was not prepared to utilise cases for statistical purposes unless the bacillus had been found. He had very little faith in drugs for the treatment of phthisis, but very great belief in plenty of fresh air and sunlight and abundance of food. As regarded treatment in a sanatorium, he would like to ask, Was it necessary to isolate patients? Was it permissible to put more than one patient in a dormitory?

Dr. A. P. HILLIER (London) drew attention to the uncertainty of ocean voyages. It depended very much on a person's means whether he derived benefit or not from a sea voyage. A yacht of one's own which could be converted into a sanatorium was one thing, but second-class or third-class accommodation on an "ocean tramp" would do nothing but harm to phthisical patients. There were, he believed, three possible sources of infection—viz., (1) milk from tuberculous cows, (2) meat from tuberculous beasts, and (3) dust from the sputa of tuberculous patients. These sources should be completely stamped out. He could not agree with Dr. Theodore Williams in not popularising the knowledge of the etiology of phthisis. He would gladly support those associations whose object was to disseminate a popular knowledge of the preventability of phthisis, such as the National Society for the Prevention of Consumption and other Forms of Tuberculosis, of which, by the way, Dr. Theodore Williams was a member.

Dr. STCLAIR THOMSON (London) limited his remarks to the early diagnosis of the disease and especially of the laryngeal lesions. When laryngeal phthisis was established there was no doubt about the diagnosis and the treatment was never very successful. The early signs consisted chiefly of (1) general catarrh of the larynx; (2) injection and granulations on one vocal cord, for if only one cord was involved it was always suspicious; and (3) slight inter-arytænoid catarrh or swelling. When these were associated with certain general symptoms, such as of general malnutrition, rise of temperature in the evening, hæmoptysis (which may be very slight), anæmia, and cough, then the diagnosis became practically certain. As regarded local treatment it was practically useless. His plan was to trust entirely to general treatment. If this was neglected the case went downhill and the tubercle bacillus appeared in the course of from 15 to 18 months.

Mr. J. LARDNER GREEN (Salisbury) read a paper on

The Value of Formalin in the Treatment of Phthisis.

Formalin was a 40 per cent. watery solution of formic aldehyde. One teaspoonful in a quart of water sufficed for the disinfection of rooms, clothes, &c. Since 1895 he had tried it in the treatment of catarrh as an inhalation and also in cases of early tuberculosis. Then he used it as a spray, which he found better than simple inhalation of the vapour. The formula which he employed was one drachm of formalin, four drachms of glycerine, and five ounces of distilled water, used as a spray four times in 24 hours, the inhalations lasting from 10 to 15 minutes each.

Dr. ARTHUR NEWSHOLME (Brighton) wished to refer to the point of prevention. Since communicability was the only factor which they could really control he did not regret that a certain degree of alarm was aroused in the public mind, for people were then more in earnest. The duty of prevention should devolve upon the medical officer of health who was able to control many of those conditions in and around the house which were known to be productive of phthisis. Voluntary notification of phthisis had been in operation in Brighton for six months and nothing but good had resulted. During that time 65 cases had been notified to him largely from out-patient departments of the hospitals. He had issued printed regulations and he found there was no friction at all. During that time 127 deaths had occurred and in all instances these houses had been disinfected. In reply to those who objected to notification before death he would ask, Why wait until then? He strongly advocated voluntary notification.

Dr. DENTON JOHNS (Bournemouth) contrasted the two methods of treatment by climate abroad and sanatoria in England. The five general principles necessary for the cure of the disease were—(1) as much exposure to fresh air as possible; (2) abundant food; (3) freedom from all excitement; (4) exercise proportionate to the strength of the patient; and (5) careful medical supervision. He considered that these conditions could be better fulfilled at a well-managed sanatorium situated in one of the many admirable climates in England than by undergoing the discomforts of foreign travel. A table of cases was exhibited and patients who had undergone sanatorium treatment were shown in illustration of these facts.

Dr. F. W. BURTON-FANNING (Norwich) advocated sanatoria because the patients were under strict observation and because not only physical signs but complications were detected at the earliest possible moment.

Dr. S. TRISTRAM PRUEN (Cheltenham) referred to the question of diet and asked what was a suitable diet. He had analysed a great many diets at different sanatoria and found that they all contained an amount of proteids and fats equivalent to 13 pints of milk per diem. The diet should vary in kind from day to day—should differ every day, but this represented the relative proportion of the different classes. With respect to amusements, if the physical signs were at all marked or if the patients were in the second stage the least excitement made them worse.

Dr. ROBERT BURNET (London) said it was impossible to over-estimate such a discussion as the present. He adverted to the importance of the facts revealed by Dr. Mitchell Bruce. It did seem an extraordinary circumstance that so many young lads should have been found perfectly healthy and so shortly afterwards should have fallen a prey to this lethal disease.

Dr. A. R. PARSONS (Dublin) read a paper on

The Accurate Diagnosis and Successful Treatment of Perforated Gastric Ulcer,

in which he advocated treatment by laparotomy immediately on the appearance of symptoms. Out of 72 cases of laparotomy for perforated gastric ulcer collected by a German authority among those operated on under 12 hours after the advent of symptoms 14 recovered and nine died; among those operated on between 12 and 24 hours four recovered and 13 died; and among those operated on after 24 hours four recovered and 28 died.

Dr. W. CALWELL (Belfast) read a paper on

Gastric Adhesions as a Cause of Dyspepsia.

The commonest cause of adhesions was gastric ulcer and therefore the subject was attended with some difficulty. Roughly about 2 per cent. of all persons had some kind of adhesions. The characteristics of this kind of dyspepsia were (1) a history of gastric ulcer; (2) localised sharp, shooting pain; and (3) freedom from pain and indigestion when at rest.

In the discussion which followed the PRESIDENT of the section remarked that the physician was gradually being robbed of his cases by the surgeon. The early diagnosis was often very difficult, especially as between gastric ulcer and appendicitis, in which mistakes might be made either way, especially in cases where symptoms came on early, as both classes of patients suffered from vomiting, pain, and collapse immediately after a meal.

Dr. H. D. ROLLESTON (London) thought that it would fall to the lot of every physician to have the abdomen opened unnecessarily sooner or later. He mentioned an hysterical case which had been operated on. As regarded the connexion between pneumonia and gastric ulcer with subphrenic abscess or adhesions he thought that pleurisy was very frequently met with under these circumstances, but not pneumonia. Appendicitis only in some cases resembled gastric ulcer and perforating duodenal ulcer, when the ulcer was very close to the pylorus.

Dr. WILLIAM EWART (London) read a paper on

The Practical Aspects of Dorsal Percussion and in Particular of the Percussion of the Spine,

which was given at length in THE LANCET of July 29th, p. 261.

Dr. D. W. SAMWAYS (Mentone) read a paper on

The Defence of the Cardiac Orifices other than Valvular.

He referred to the experiments of Chauveau, Faivré, and Marey on cardiac cysts in the horse and quoted from these observers to show that they noticed that the first part of the ventricular contraction overlapped the second part of the auricular, a fact, however, which they failed to indicate in their diagrams. Marey likewise made a statement which indicated that the separation in time between the contraction of the auricles and ventricles shown in his curves from the horse were too emphatic when applied to man. He had the opportunity of examining a woman in Alsace who had a congenital hernia of the heart through the diaphragm and abdominal walls so that it lay beneath the skin in the epigastric region. Although Marey referred to "the great resemblance" of the cardiograms taken from this patient to those from the horse, Dr. Samways found on examining these curves that the two contractions (auricular and ventricular) actually overlapped. Rolleston's experiments and those of Roy and Adami published in the *Practitioner* were also referred to, the latter showing that the auricular contraction outlasted the first phase of the ventricular systole and persisted until the opening of the aortic valves for the passage of the blood into the aorta. These observations were quite in keeping with the fact that the cardiac action was a peristalsis, the essential feature of which was that the contraction was maintained in one segment (the auricular) while it was developing in the adjacent one (the ventricular). It was this overlapping of the ventricular contraction by the auricular which explained the well-known fact that the auriculo-ventricular valves did not close when the systole of the ventricle began. Chauveau and Marey, Galabin, and others considered that these valves closed, not when the cardiac impulse began but when it had fully developed or nearly so, and therefore simultaneously, or nearly so, with the opening of the aortic valves. Referring to the great difference in muscularity between the auricles and ventricles which were thus placed in opposition to each other before the valves closed Dr. Samways pointed out that as the auricle commenced first the volume of its contents became rapidly smaller. The auricle was thus placed at a great mechanical advantage over the larger ventricle, as might be shown by an experimental arrangement of two rubber balloons, a small one with thin walls and a large one with thick walls. Moreover, as the auricle contracted its wall became thicker and thicker. Muscular rings round some of the orifices also played a considerable part in the guarding of the opening and preventing a reflux of blood. Dr. Samways came to the conclusion that the defence of the cardiac orifices was partly muscular and partly valvular, the auriculo-veinous orifices being guarded by a muscular sphincter which alone was quite sufficient for the purpose of closing them and keeping them closed. The auriculo-ventricular orifices were during the first phase of ventricular contraction also guarded largely by the muscular action of the still contracted auricle. Similarly when the ventricle had expelled its blood into the aorta during the second phase of its contraction it remained contracted behind the aortic valves, probably shielding and supporting them. The practical applications of these data were as follows: 1. In cases of mitral stenosis, when the auricular contraction was prolonged, the absence of regurgitation and of a systolic murmur was due to the auricular defence of the stenosed and (during the whole or part of the expulsive phase of the ventricular contraction) incompetent orifice, for the ventricle could not force the blood back into the auricle while it was in a state of peristaltic contraction. 2. Regurgitation and a systolic murmur might, however, appear as the stenosis advanced, because when the auricle failed to expel its blood in time to become sufficiently small to resist the ventricle regurgitation must occur in spite of the efforts of the auricle. Mechanical dilatation of the auricle would then commence; and although temporary improvement and the disappearance of the systolic murmur might take place the complete cardiac breakdown occurred sooner or later when the muscular support was gone. 3. The auricular systolic murmur of mitral stenosis might reasonably be supposed to be presystolic and early systolic, since the auricular systole, like the murmur, ran after *and into* the ventricular systole. 4. Hypertrophy of the auricle, so common in mitral stenosis, would aid or exaggerate the above results.

SURGERY.

THURSDAY, AUGUST 3RD.

Major J. D. DAY, R.A.M.C., demonstrated

A New Form of Truss

which he had devised for a troublesome case of inguinal hernia. It consisted of a triangular piece of elastic material with a central circular aperture and a longitudinal fissure, capable of being closed by straps and buckles. The penis and scrotum are passed through the aperture, the straps are tightened and a band is passed between the legs to join at the back, the bands being connected with the upper angles of the pad which pass round the waist. This truss had been tried in a number of difficult cases of inguinal hernia and it had proved to be very effective. Those wearing it were able to do gymnastics. It caused no bulging of the clothes and so escaped observation. He had not used it for femoral hernia, but it could easily be adapted to suit that condition.

Professor E. LAPLACE (Philadelphia) exhibited his

Forceps for Facilitating Intestinal Anastomosis.

It consisted essentially of two catch forceps whose blades were curved, so that when together they formed a ring. One blade of each pair of forceps is inserted into each portion of the two pieces of intestine and the blades being closed grasp the bowel-wall firmly between them so that the serous edges are closely applied. It is easy then to apply sutures all round; when this is accomplished the forceps are removed separately and a final stitch closes the aperture. In end-to-end anastomosis four fixation sutures had to be applied before the forceps were used. Dr. Laplace demonstrated the use of the forceps on a human stomach and intestine and the process was extremely simple and rapid; especially was this the case with lateral anastomosis, as in gastro-jejunostomy.

Deputy-Inspector-General E. E. MAHON, R.N., C.B., opened a discussion on

The Prevention and Treatment of Syphilis in the Navy and Army.

He commenced by saying that it was hardly possible to overestimate the importance of the subject, for the large number of those who were under treatment for syphilis and other venereal diseases seriously impaired the efficiency of the navy and army. Statistics showed the very large number of men treated for syphilis. In the navy in 1860, before the passing of the Contagious Diseases Act, there were 76 admissions for syphilis per 1000; in 1864 the Act was passed, and in 1869 the number had fallen to 41; in 1880 while the Act was still in force the number had risen to 57 per 1000. In 1885 the Act was repealed and in 1897 there were 74 admissions for syphilis per 1000. The admissions per 1000 for gonorrhœa were in 1860, 20; in 1880, 26; and in 1897, 70. One explanation of this very large increase in gonorrhœa was that in the old days men did not always present themselves for gonorrhœa as there was stoppage of pay while men were under treatment. Perhaps a better idea could be given by figures representing the number of days of active service lost by men in consequence of their being in hospital. In 1880 for primary syphilis 32,223 days were lost and for secondary syphilis 128,059, and for gonorrhœa 40,392. The figures for 1897 were: for primary syphilis, 96,335; for secondary syphilis, 49,764; and for gonorrhœa, 77,054. It was quite useless to think of obtaining any re-enactment of the Contagious Diseases Act and therefore they must think of other means of diminishing the number of cases of venereal disease. Intemperance was undoubtedly responsible for a large percentage of the cases, so that anything which could diminish the amount of intemperance would cause a decrease in the number of cases of venereal disease. Good naval barracks should be substituted for depôt ships, advice should be given to young sailors as to personal cleanliness, early marriages should be encouraged, and preference should be given to healthy people in making appointments. As to the treatment the speaker believed in mercury but the effects must be watched. The form he usually prescribed was hydrargyrum cum creta in the form of pills.

Major W. DICK, R.A.M.C., also contributed to the opening of the discussion. He quoted figures from the army reports showing the number of men constantly sick; in 1882 of 3806 men constantly sick 910 were suffering from venereal disease—i.e., 23½ per cent.; in 1887 out of 4505 1200 were venereal cases—i.e., 26½ per cent.; in 1892 out of 5707 1766 were venereal cases—i.e., 31 per cent.; and in 1897 out of 6541 2543 were venereal cases—i.e., 39 per cent. The figures showing the number of men invalided home for syphilis were also very instructive. In 1880 86 men were sent home for this cause; in 1881, 65; in 1887, 93; in 1888, 137; and in 1897, 804. This great increase in the number of those who were invalided home pointed to an increase in the severity of the disease. As to the prevention of syphilis, moral suasion would certainly do some good. The hygiene of the individual was also of some importance. The barrack life should be made as pleasant as possible so as to induce men to remain as much as possible within the barracks. Men should be encouraged to go to the hospital as soon as possible after they were attacked. The authorities should prevent prostitution as much as possible. In the treatment it was very important that the men should be seen early. He had been in the habit of applying pure carbolic acid to primary sores, and he thought that too much attention should not be paid to the character of the sore. If a course of mercury was decided on it was best administered by the mouth, for inunction could not be satisfactorily carried out unless trained rubbers could be employed. He considered the toilet of the mouth of great importance and the teeth should be regularly cleaned. When men were invalided home the sea voyage often seemed to do them much good.

Dr. C. R. DRYSDALE (London) expressed the opinion that gonorrhœa was even worse than syphilis as it had so many complications and sequelæ. Soft sore was so slight an ailment that no great exertion was required for its prevention. He went on to say that what might be called the "continental" system for the prevention of venereal disease had everywhere been a complete failure, even in Paris, where 4000 women lived under the system and 50,000 did not. The Contagious Diseases Act was a perfect failure, for when it was repealed there was more syphilis in the navy and army than when it was passed. At the present time there was less syphilis in England than in any continental country and this was due to the fact that English people were in the habit of taking care of themselves. There was comparatively little syphilis among the native troops of India.

Major F. J. LAMBKIN, R.A.M.C., considered it to be very necessary that the Contagious Diseases Acts should be re-enacted, but he saw little chance of this being done. He wished to speak principally about the treatment of syphilis. The treatment must be long-continued, for eight months or a year, and it was certain that most of the cases in the navy and army did not receive treatment for nearly so long as this. Most of the cases were discharged from hospital in about two months, and generally no further treatment was given until symptoms reappeared. By the intra-muscular method treatment might be continued as long as necessary after leaving hospital. The men came up for treatment once a week. He had given 20,000 injections and had had only one bad result and in that case an abscess formed. The men themselves had great faith in it and in some cases they had paid their own expenses for coming to the hospital to have the injection given. He preferred the following solution as it caused but little pain—one drachm of mercury, two drachms of lanolin, and four drachms of carbolic oil (1 in 20); of this 10 minims were injected into the buttock.

Major W. NIVEN, I.M.S. (retired), thought that any Contagious Diseases Act should be applied to men as well as to women. Washing the genitals much diminished the risk, even if two or more hours had elapsed; especially was this true of the soft sore. Private washing-rooms should be established near the latrines. He considered that the sexual instinct was not understood by religious societies.

Dr. GEORGE OGILVIE (London), in drawing a parallel between the British troops in India at the present time and the British troops in Portugal in the Peninsular War, disclaimed any intention of suggesting that the present "malignant" aspect of syphilis was in any way to be attributed to the excessive use of mercury. There were probably several factors in "malignant syphilis" and one of these was probably malaria. The routine treatment must be varied to suit each individual case and this was especially true in cases of malaria. He was also of opinion that wholesale mercurial treatment was an additional source of malignancy. He thought it very desirable that distinctions should be made between the different forms of malignant syphilis which at present were all put together.

Dr. SHAW-MACKENZIE (London) considered that there were natural causes of mitigation of syphilis, such as exhaustion of the soil, and so slight forms of syphilis arose. In the same way there were natural causes of aggravation, such as a warm climate and malaria. There was also the epidemic influence and youth was probably also another factor.

Mr. A. H. WARD (London) mentioned that there was a popular idea that coloured people could transmit a more virulent form of the disease, but he had seen no proof of it. He considered malaria a cause of syphilis being more severe and any other depressing agency, such as chronic alcoholism, would have the same effect. Lack of continuous treatment also tended to increase the severity of the disease and for that reason he was much in favour of the method described by Major Lambkin.

Surgeon-Colonel F. H. WELCH, A.M.S. (retired), pointed out that there were two distinct factors in this question—namely, the incontinence and the prevalence of the disease. The soldier brought into the service the results of his bringing up and he was certainly no worse than the people from whom he was derived. The disease was derived from the communities among which he was cast. There were two indications for reducing the prevalence of the evil: (1) the improvement of the moral character generally both in and out of the army; and (2) the reduction of the disease among the civil population. Although he was not in favour of re-introducing the Contagious Diseases Acts, yet he was inclined to think that they did good and did reduce the disease. The moral results of the Acts were especially good. They reduced prostitution and reclaimed women. They extirpated juvenile prostitution and prevented solicitation in the streets.

Colonel H. GRIER, R.A.M.C., spoke in favour of intra-muscular injections in the treatment of syphilis; he had given 15,000 injections and had seen no harmful results.

Dr. CHARLES BELL TAYLOR (Nottingham) considered syphilis to be usually a mild disease. Before the Contagious Diseases Acts were passed not 1 per 1000 was permanently invalided from the army. From 1859 to 1866 syphilis diminished from 35 to 24 per 1000; it then rose under the Act to 38 per 1000 and then again fell. He could not recognise the right to examine women and it was only possible to examine a very small proportion of the women who might be affected. As to intra-muscular injections he had heard of three deaths following it.

Dr. J. L. MAXWELL (London) did not think that in the home service there was any increase of syphilis, for in 1880 there were 246 admissions per 1000 and in 1897 there were 140. Therefore moral treatment was evidently of much value. As to the amount of syphilis in the civil population an idea might be gained from the number of rejections for this cause among candidates for the army. In 1878 151 per 10,000 were rejected for venereal disease, but in 1897 only 35 per 10,000 were rejected for this cause.

The PRESIDENT of the section (Mr. BUTLIN) congratulated the section on the moderation shown by the speakers. He mentioned that he had received a petition which had been forwarded by Mrs. Bonham Carter, requesting the aid of the Association in obtaining an inquiry into the actual facts. The petition had already been before the Council of the Association.

Surgeon-General O'DWYER, A.M.S., was sure that the Contagious Diseases Acts did not affect the prevalence of gonorrhœa. At Aldershot special lavatories had been put up to enable the men to wash the genitals, but they would not make use of them. As to the prevention, the more comfortable the barracks are the less likely will the men be to go outside for amusement. He was in favour of the intra-muscular method of treatment as it reduced the duration of stay in hospital by 10 per cent.

Mr. A. H. WARD read a paper on

The Rational Treatment of Syphilis.

He said that although no organism had been positively identified as the cause of syphilis, yet it could not be doubted that the disease was microbic in origin. All the symptoms were due to the toxin and the rational treatment should aid the natural cure. The following indications were mentioned: (1) to push the mercury to the toleration point and keep it there; (2) to commence the course at the earliest possible moment; (3) to continue it throughout the normal period of evolution of the disease; (4) treatment must be easy and unirritating; (5) the general health must be attended to; and (6) the value of water as an adjuvant in removing the toxin. Mercury acted as an antiseptic, but an overdose poisoned the patient and lowered his power of resistance; therefore, great caution should be observed in debilitated persons. The course should last two years and iodide of potassium should not be given during the primary or secondary stage. Zittmann's decoction was of value in debilitated cases.

Surgeon-Colonel F. H. WELCH, A.M.S., read a paper on

The Prevention of Syphilis,

which was published in THE LANCET of August 12th, p. 403.

Mr. J. L. THOMAS (Cardiff) read a paper on

Two Recent Operations upon the Gasserian Ganglion by the Hartley-Krause Route.

In both cases life was a misery and the pain had lasted two or three years. In one case the bone was replaced and in the other not. In preparing the scalp for operation he employed sulphide of barium to remove the hair; it acted quickly and removed also the superficial epithelium. He employed Horsley's wax to block up the foramen rotundum and foramen ovale. In one of the cases the ganglion was not removed. The sense of taste persisted after the operation. Mr. Thomas also showed a Washing Tap for operating rooms and demonstrated a simple method of irrigating the abdomen; a thermometer placed in the rubber irrigating tube showed the temperature of the liquid as it entered the abdomen.

At this meeting 116 members were present, including one lady.

OBSTETRICS AND GYNÆCOLOGY.

THURSDAY, AUGUST 3RD.

The second day's session was opened by a discussion on the

Natural Menopause compared with the Menopause produced by Removal of the Uterine Appendages and the Menopause produced by Removal of the Uterus without Removal of the Appendages,

introduced by Mr. BLAND SUTTON (London). He said it was a striking fact that although they were familiar with the phenomena of menstruation and accepted unreservedly the view that the endometrium was the menstrual organ and the ovary the controlling body, they were absolutely ignorant of the causes of menstruation. It was therefore necessary at the outset to consider the relation between the ovaries and menstruation. The ovary, apart from being ovigerous, fulfilled other duties, like the secreting glands in general, for no organ was restricted to a single function. He regarded the ovarian follicle as a modified mucous crypt and the ovary as a ductless gland. The ovary was remarkable not only as belonging to the class of ductless glands, but also as belonging to the peculiar group of temporary glands of which the thymus was the type; its period of activity was coincident with menstrual life. The incidence of menstruation denoted that the ovaries and uterus were functional and that the individual was sexually mature. The menstrual cycle, lasting about thirty years, represented the period during which the ovaries were in full vigour. When both ovaries were completely removed from a sexually mature woman the result was an abiding amenorrhœa and the individual presented other peculiarities characteristic of the menopause apart from amenorrhœa, so that it was absolutely correct to speak of the arrest of menstruation produced by complete removal of both ovaries as an artificial menopause. Should a small portion of healthy ovarian tissue remain, however, menstruation would continue unchecked and climacteric phenomena would be in abeyance. The uterus was subservient to the ovaries; it was an incubation chamber for the reception and development of oösperms. Its chief peculiarity consisted in the remarkable cyclic changes exhibited during menstrual life by the endometrium, but it was important to realise that the part played by the uterus in menstruation was merely secondary, for the menstrual discharge was at best but a disagreeable accompaniment of menstruation. When from any cause a woman had no loss of blood at a natural menstrual period she usually experienced what we conveniently called vaso-motor disturbances, or, in the terminology of ancient medicine, a menstrual *molimen*. The normal menopause he defined as the cessation of menstruation in consequence of the natural atrophy of the secreting tissue of the ovaries. The menopause was declared not only by the cessation of a monthly flow of blood, but also by the peculiar cutaneous phenomenon known as "flushing" and other signs of nerve disturbance, such as irritability of mind, nervousness, and occasionally erotomania. In a small proportion of cases these conditions became so intensified as to result in disaster; in the greater number, however, the storm quickly subsided and the genital organs gradually entered upon what might be called the "resting-stage." The artificial menopause was something more than simple arrest of the periodical loss of blood; as the source of menstruation was the endometrium removal of the uterus was followed by permanent arrest of menstruation as surely as permanent visual blindness ensued upon the removal of both eyeballs. The belief in vicarious menstruation had at last found a place in the list of popular errors and foolish superstitions. Although removal of the uterus from a mature woman produced amenorrhœa and sterility it did not induce a complete menopause. On the other hand, complete removal of both ovaries from a sexually mature woman was followed by amenorrhœa, sterility, and in a fair proportion of cases by "flushings," which latter were not met with after removal of the uterus alone. It was with the view of avoiding the production of an artificial menopause that he deemed it wise to spare at least one ovary whenever practicable in performing hysterectomy, and, further, to remove the uterus in many grave conditions in preference to the sacrifice of both ovaries. The relation of the artificial menopause to nubility was a

matter of some social importance; he felt that if both ovaries had been removed there was little prospect of a happy union and generally he advised against marriage. On the other hand, if a woman had had her uterus removed but possessed at least one ovary she might be regarded as nubile if the intended husband clearly understood that the marriage would be sterile.

Mr. STUART NAIRNE (Glasgow) said that he had performed a considerable number of hysterectomies without removal of the ovaries and his experience led him to the following conclusions. First, the shock of removal of the uterus was much less than that of removal of both ovaries; and secondly, the removal of the uterus was not necessarily followed by the entire cessation of menstruation. He had no hesitation in saying to patients that menstruation would have a chance of continuing in spite of removal of the uterus and that the menopause would come on in a natural manner.

Mr. J. W. TAYLOR (Birmingham) said that, speaking of the clinical aspect of the subject, no special symptom or set of symptoms appeared to be peculiar to either of the three varieties of menopause spoken of by Mr. Bland Sutton. In his experience some of the very worst instances of nervous and mental disturbance were met with in cases of the natural menopause; consequently these disturbances could not be solely or mainly referred to removal of the ovaries. He believed that the artificial menopause compared unfavourably with that produced naturally, in the prolonged character of the nervous disturbances. When removal of the uterus or ovaries was performed in early life these disturbances were often conspicuous by their absence; in middle life, however, they were often prolonged for years.

The PRESIDENT of the section (Dr. GRANVILLE BANTOCK) reminded Mr. Bland Sutton that during the reign of the clamp in the treatment of the ovarian pedicle menstruation not infrequently occurred through the stump of the Fallopian tube and this would seem to establish the fact that the endometrium was not the only source of the menstrual fluid. He referred to cases of removal of the uterus or appendages in which the sexual passion seemed to be intensified, and the late Mr. Lawson Tait had given evidence to the same effect. Several cases had come under his notice in which menstruation presenting all the normal characteristics occurred after the absolute removal of both ovaries and tubes.

Dr. MACPHERSON LAWRIE (Weymouth) asked if Mr. Stuart Nairne felt justified in assuring patients that after removal of the uterus menstruation would continue as before. This seemed to him to be an opinion which would not be endorsed by most gynæcologists, although there might be occasional exceptions to the rule.

Mr. J. D. MALCOLM (London) agreed with the last speaker that removal of the uterus would be expected to produce a cessation of menstruation. After double ovariotomy the menopause varied greatly in severity, probably according to the peculiarities of the patient. He had seen several cases in young women of from 17 to 23 years of age in which the menopause had given very little trouble; on the other hand, in one case, a young woman, aged 22 years, the menopause had been the most severe in his experience. He also had some doubt as to whether complete removal of the ovaries always produced cessation of menstruation.

Dr. CHARLES A. L. READE (Cincinnati) said that he had long been impressed with the fact that the menopause could not be recognised as a physiological or pathological entity with uniform characters. On the contrary, he was convinced that it was one of the phenomena of sexual life which never squared itself to regular rules of conduct. The acute menopause produced by complete ablation of the uterine appendages was usually so stormy that he had sought to mitigate its severity by conservative measures, such as leaving part or the whole of an ovary. He was compelled to admit, however, that frequently second operations had to be subsequently performed for the removal of the ovary left behind. He had therefore drifted back to the position of the late Mr. Lawson Tait who favoured the practice of bilateral ablation of these organs. He regretted that Mr. Bland Sutton had not considered the effect of the vaso-motor disturbances of the artificial menopause upon the hæmatogenic functions. He had himself conducted a series of observations upon this point, but the facts ascertained were too meagre to justify conclusions. He was, however, convinced that there occurred a definite leucocytosis and a constant oligochromæmia, reducing the percentage of hæmoglobin sometimes to 70.

Mr. BLAND SUTTON, in reply, contended that wide variations existed in the natural menopause within normal limits, for in some individuals it caused very slight disturbances while in others it was followed by a very profound and far-reaching upset of the nervous system. It would be interesting to obtain statistics of the liability to insanity of women after an artificial menopause, in comparison with their liability after a normal menopause, childbirth, removal of a mamma, or amputation of a limb. That the influence of healthy ovaries was very great was proved by the result of double oöphorectomy in osteomalacia, a proceeding which Fehling had placed upon a sound basis of ascertained physiological and pathological facts, and one supported by Curatulo's observations upon the variation in the output of phosphates in the urine of mice after experimental removal of both ovaries. He was at present deeply interested in the comparison of the thyroid and ovarian glands. They presented striking structural similarities, their ablation profoundly modified metabolism as well as disturbed the vaso-motor system, and in each instance the disturbance was controlled by the administration of thyroid and ovarian extract respectively. The liability of the two glands to pathological changes was singularly similar—indeed, the pathological parallels of the thyroid and ovarian glands was a study to which he (Mr. Sutton) was at the present time giving close attention.

Professor BYERS (Belfast) next read a paper upon

Cases of Amenorrhœa Associated with Raynaud's Disease and Pulmonary Tuberculosis.

He said that during the past 10 years he had met with a series of cases presenting certain well-defined clinical features—viz.: (1) diminished or arrested menstruation; (2) local symmetrical asphyxia of the extremities, a condition known as Raynaud's phenomenon; and (3) pulmonary tuberculosis. After giving details of four cases Professor Byers proceeded to discuss the clinical phenomena more fully. 1. Amenorrhœa.—In three of the cases menstruation was completely absent, while in one it was in abeyance for a time but subsequently re-appeared, and then it was probably due to delayed physical development; in one of the three it ceased suddenly after a nervous shock and simultaneously the local asphyxia developed. 2. Local asphyxia.—Raynaud taught that suppression or irregularity of menstruation was often an exciting factor in the causation of the symmetrical condition observed in the extremities and his (Professor Byers's) observations supported that view. 3. Pulmonary tuberculosis was present in all of the cases, either when the patient first consulted him or subsequently. This might have been a coincidence, but if so it was a very striking one.

Dr. INGLIS PARSONS (London) read a paper entitled

16 Cases of Procidentia and two of Prolapse of the Uterus treated by a New Method.

He referred to nine cases already published in THE LANCET[1] and was able to state that in all but one the good result had been maintained. He now reported eight further cases in which good results had been obtained and no return of the procidentia had occurred. He believed that this method applied to cases of prolapse in an early stage could prevent procidentia from ever occurring. The principle of the treatment consisted in taking advantage of nature's reparative powers. After dislocation of a joint an effusion of lymph occurred round it, which was the first step on the part of nature to repair the damage. When the womb fell the process was so gradual that there was no stimulus to the effusion of lymph; this stimulus could be supplied by injecting solutions of sulphate of quinine into the broad ligaments. He believed that the broad ligaments were the principal agents in holding up the uterus and his object was to strengthen and repair them. He preferred to place the patient under an anæsthetic, although this was not a necessity. Then the vagina was carefully disinfected, the posterior wall held down with a Sims's speculum, and the anterior wall held up with a retractor. The injection was then made on each side of the cervix through the vaginal wall, the direction of the needle being perpendicular to the base of the broad ligament. The needle employed was about an inch in length and rather thicker than a hypodermic needle. A solution of one in five of sulphate of quinine in acidulated water was used and the amount required was from 30 to 40 minims. After the

[1] THE LANCET, Feb. 4th, 1899, p. 292.

operation there was generally no pain and no rise of temperature. In three or four days a definite mass of effusion could be felt in both fornices. A cup and stem rubber pessary should be placed in position after the injection and retained there until the effusion was well formed, when the uterus could no longer become displaced. It was best to keep the patient at rest for one or two months afterwards to give time for the consolidation of the new tissue. Dr. Parsons then gave details of the cases operated upon by him up to the present time.

A discussion followed in which the PRESIDENT of the section said that he felt it was due to Dr. Inglis Parsons to state that he had done him (the President) the honour of showing him some of the cases referred to in his paper, and it was strong testimony to his good faith that the first case he exhibited was a complete failure. But in several cases the result was all that could be desired and he had to congratulate Dr. Parsons upon the introduction of a method of treatment that held out distinct promise of benefit in a very distressing and hitherto very intractable class of cases.

Dr. WALTER TATE (London) said that he was surprised at the permanence of the results reported by Dr. Inglis Parsons. In many cases of parametritis following delivery the exudation was completely absorbed and no evidence of past inflammation remained. He would also like to know whether the results were more permanent in the two cases referred to in which suppuration had occurred.

Dr. INGLIS PARSONS, in reply to Dr. Tate, said he thought the amount of exudation was about one-fourth of that which occurred in acute parametritis. In three-fourths of his cases no rise of temperature occurred and he therefore felt that he was entitled to say that the exudation produced by the injection was not inflammatory.

Mr. STUART NAIRNE read a paper on

A New and More Complete Method of Colporrhaphy.

After recapitulating shortly the ordinary methods of colporrhaphy he proceeded to describe the method which he had devised and which gave much better results than the other methods. He called it "lateral colporrhaphy." An incision was made in the vaginal wall on each side, starting from the cervix and going right through the vaginal wall. Two flaps were then turned up on each side, but no tissue whatever was removed. A series of sutures was then passed, the needle entering first at the point nearest the cervix and passing to the same level on the opposite side; the sutures reached from the cervix down to the level of the external genitals. When tied a bridge was formed over which the cervix could hang either anteriorly or posteriorly, and the vagina was thus divided into two canals of more or less equal capacity. The operation was hardly suitable for young married women, but was of great value to those of more advanced age.

Dr. WALTER TATE agreed that the ordinary operations were far from satisfactory and any new operation which offered permanent results would be welcomed. It seemed to him that Mr. Stuart Nairne's operation was very similar to the old operation, in which a longitudinal strip of mucous membrane was removed from the anterior and posterior walls, and an antero-posterior septum produced.

STATE MEDICINE.

FRIDAY, AUGUST 4TH.

Dr. ARTHUR NEWSHOLME (Brighton) opened a discussion on

The Means of Preventing the Spread of Infection in Elementary Schools.

Increased facility of personal communication, Dr. Newsholme said, greatly facilitated the spread of infectious diseases. This point needed to be remembered in comparing the present with the past incidence of such diseases. The chief infectious diseases tended to be in a higher proportion endemic and in a less proportion epidemic than in former times. It was not surprising that among the increased means of personal intercommunication compulsory school attendance, affecting as it did the most susceptible period of life, occupied an important place. It was not necessary to discuss the exact share taken by school attendance in the spread of disease, more particularly of diphtheria. He had elsewhere given his reasons for regarding school infection as only a minor cause of the spread of diphtheria, as forming but one incident in a battle which by no means determined the issue of the campaign. What were the most important measures applicable to the prevention of the spread of infection in connexion with school life? The first and most urgent was the provision of prompt medical attendance upon children when they first fell ill with what might prove to be an infectious complaint. The greater part of the spread of infection in school life was caused by the absence of diagnosis in the acute febrile stage of disease. He could not attempt to state which of the two factors—lack of medical advice or medical advice given under unfavourable conditions—was the more frequent cause of mischief in schools. Together they caused an enormous amount of evil and no measures for preventing the spread of infection by children attending school and in an infectious condition would secure complete success which did not end both of these evil influences. Would the medical inspection of scholars meet the requirements of the case? No doubt much good could be done by this means. Every medical officer of health had probably had the experience of picking out children desquamating from scarlet fever in the class-room of an elementary school. Medical inspection could secure the exclusion of children suffering from such suspicious symptoms as recent otorrhœa, enlarged cervical glands, nasal discharge, and so on. In several cases he had found the systematic employment of bacteriological diagnosis of the greatest value. That the London School Board should during the past year have raised objection to inspection of school children by a medical officer of health appeared to be a suicidal policy. But it must be admitted that the medical inspection of schools had only a limited utility. The medical supervision of scholars might be extended to the visitation of absentees at their homes whenever absence was caused by illness. It did not, however, appear at present to come within the range of practical medical politics. At the present time they were dependent in their attempts to prevent the spread of infection in schools on (*a*) compulsory notification and on (*b*) the voluntary information supplied by teachers and others. There was a great and constant struggle among school authorities to increase their "average attendance," as the position of the schools and the amount of monetary grant from the Imperial Exchequer depended upon that. It could not be expected, therefore, that under ordinary circumstances teachers would furnish the medical officer of health with information which might lead to the exclusion of their scholars from attendance at school. To meet this objection he had had during the last 18 months the following plan in operation. The medical officer of health signed up not only for the absences of patients but also of all other children from infected houses. That fact secured the coöperation of teachers and school-attendance officers and relieved the stress of compulsory school attendance which, however necessary on general grounds, was not infrequently the means of spreading infection.

Dr. SIDNEY DAVIES (London) said that the exact position of schools in spreading disease was not defined. He found that half of the cases of diphtheria were those of children who did not attend school. The schools were in his opinion responsible for the failure of medical officers of health to stamp out scarlet fever. Measles was also spread by the agency of the schools. Undetected and return cases of scarlet fever were a great danger. He thought that some scheme of systematic medical inspection could be devised. The London School Board would no doubt have to alter their present position of doing nothing themselves and of preventing outside medical inspection.

Dr. KENWOOD (London) observed that in his opinion a considerable amount of infectious disease was the result of crowding children together into schools, hence those places required careful supervision. Education at all costs should not be allowed to stand in the way. The chief defect was in the intelligence department. Parental ignorance, indifference, and neglect could not be met except by the medical inspection of scholars. Instead of gratuitous medical visitation as advocated by Dr. Newsholme he would suggest a skilled medical inspector who should inspect at stated periods in non-epidemic times, more especially with the view of dealing with those suffering from errors in sight, faulty development, over-pressure, and other diseased conditions not necessarily infectious. Such an officer should also lecture to teachers on health matters and the early symptoms of disease, and he should be always available for the examination of school children set apart by teachers as requiring examination. In times of epidemic he should

make daily or frequent inspection of all children who if found ill should be placed at once under the care of their own medical attendant. Practically in London they never had any notification from school board authorities although it was laid down in their code of regulations. In four years he had received perhaps 30 such notices, and these were always of measles. The granting of prizes for school attendances was wrong in principle and often led to attendances of unfit scholars. In America over 4000 children were excluded from the New York schools for a period of three months. Of these 88 suffered from measles, 167 from diphtheria, 32 from scarlet fever, 11 from croup, 26 from whooping-cough, 117 from mumps, and 2627 from parasitic diseases. He thought that the medical officer of health should, as a rule, be made medical inspector of schools, because he had a special knowledge of communicable disease and an early knowledge of epidemic prevalence.

Mr. H. MAY (Birmingham) advocated that school boards should have their own medical officer, at any rate in the larger districts.

Dr. SYDNEY MARSDEN (Birkenhead) said that in all these matters they had to be careful to protect interests all round. Legislation in some directions might be called grandmotherly. To close schools and to interfere with education unnecessarily would be a very great evil. He advocated a special daily report to the medical officer of health in all infectious diseases.

Dr. MEARNS FRASER (Portsmouth) emphasised the statement of Dr. Newsholme as to the value of Section 101 of the School Code. He found in Portsmouth the utilisation of this section to be of the utmost use. As soon as several of the scholars of any school were notified as suffering from any infectious disease he visited the school and pointed out to the teachers initial symptoms and instructed them to send home any suspicious case and to notify the health officer. The child was kept away from school then for one or two days' probation, while the focus of infection could in this way be seen at once and removed from the school, or the child returned in a day or two. At the same time the certificate granted by the medical officer of health that the child had been kept away from school at his request prevented any loss of grant to the school. Dr. Fraser had little confidence in the closure of schools in towns of the size of Portsmouth as a measure for preventing the spread of disease. Except in rare cases this was of little use, the exception being principally in the closure of infant schools for the prevention of measles—this had in one or two cases proved beneficial. He was strongly of opinion that proper medical inspection of the elementary schools was necessary and also that this should be directly under the control of the sanitary authority.

Dr. J. ROLSTON (Devonport) advised disinfection of school environment. Also that the absence of children should be reported by the medical officer of the board and the cases then handed over to the medical attendant of the family.

Dr. WALTER SMITH (London) thought that each district should have its own medical officer, and that there should be more systematic inspection of schools. The mission of the school board was to educate and that of the sanitary authority was to attend to the health of the community.

Dr. J. GROVES (Carisbrooke), after referring to the different conditions which obtained in rural sanitary districts as contra-distinguished from towns and eulogising Dr. Newsholme's methods of voluntary notification by school authorities, said that he could not agree with those who thought that school managers should be treated with special deference and in an apologetic manner by the medical officer of health whose sense of duty required him to close schools when infectious disease prevailed. Courtesy did not involve deference and apology. What was called "tact" was too often compromise with truth and honour. The medical officer of health was charged with the protection of the sacred interests of the public health in his district. If those interests were prejudiced he had no choice. At all cost he had to meet the cause of prejudice and remove it in so far as it was possible to do so. If to this end it was necessary in his judgment to close the schools he had to recommend the managers accordingly. He knew more than any other man about the subject and it was not for him to explain his reasons to those who could not understand them. If the managers objected to his action there was provision in the code for appeal to the Education Department and let the managers appeal if they were dissatisfied. The medical officer of health had to maintain a firm back whether he liked it or not, and if he could not do so he ought to resign his appointment. What right had he to sacrifice what he knew to be the interests of the community because it was unpleasant to him to run counter to the wishes of those who were not capable of judging of his work or his methods? He must know that the great consideration which influenced the managers of public elementary schools was the "grant." How dare he sacrifice the interests of the public health to such a consideration, or to any consideration whatever! He had, in truth, the power to aid the "grant" under Section 101 of the code, as Dr. Newsholme had pointed out, and he should make the acquaintance of all the schoolmasters and schoolmistresses in his district that they might assist him and that he might assist them. He must always be kind and must do his best for everybody; but he must be firm and determined in conserving the high interests to the maintenance of which the very fact of his appointment proves that he has pledged his honour.

Dr. NEWSHOLME, in reply, agreed that free medical diagnosis would sometimes be thwarted by parental ignorance. Some working scheme should, however, be framed—the best that could be devised—to exclude infectious cases from schools. He thought that the medical officer of health should hold the appointment and be paid. When school boards appointed a medical officer it was almost always for pupil teachers and not for children. The inspection of absentees would have to be adapted to the special requirements of various districts.

The following motion was proposed by Dr. NEWSHOLME, seconded by Dr. KENWOOD, and passed with one dissentient:—

That this section requests the Council of the British Medical Association to make representations to the Education Department, Whitehall, urging upon them the necessity from the standpoint of the public health of authorising medical officers of health to inspect all school premises and to inspect or secure the inspection of scholars when the prevalence of infectious disease is judged by him to make such an inspection desirable.

Mr. J. CANTLIE (London) read a paper on

The Early Decay of the Teeth in Great Britain.

He discussed the various theories to account for the prevalence of decay of teeth in children. He did not favour the "starvation" theory of the dental tissue but rather that of developmental defect. Healthiness of teeth was more essential to the child than to the adult. A healthy race could not be raised upon carious teeth. In European races the teeth were deteriorating, and although caries was found in many ancient races it was found in adults and not in children. Artificial feeding was a fertile source of the evil and he believed the temperature of the food was a material factor. He thought that suckling lay at the root of the trouble and not the adenoid blocking of the nostrils. The dentist must tell us how to produce healthy teeth. The deterioration was a condition of modern civilisation and should be discoverable.

Mr. KINGSTON BARTON (London) insisted upon anatomical grounds that any remedial measures should be applied during the first three months of life. If the State was to interfere it must see to the food and not defer the matter until the school age when it would be useless.

Dr. J. GROVES remarked that general educational measures of parents and of the community were needed upon matters connected directly and indirectly with the teeth.

Mr. CANTLIE suggested the appointment of a commission of inquiry with a grant and he proposed—

That, in view of the early decay of the teeth prevalent in Great Britain this section requests the Council of the British Medical Association to appoint a committee of not fewer than three persons to inquire into the subject and to report to the Council in 12 months from the date of the appointment.

Dr. R. ESLER (London) seconded the motion which was carried *nem. con.*

Dr. HERBERT PECK (Chesterfield) read a paper on

The Frequency of Sick-room Infection in Typhoid Fever.

He said that it was generally accepted that the immediate cause of enteric fever was the bacillus typhosus of Eberth and that invasion might take place in various ways. On the other hand the disease was rarely traced to a definite source of infection, so that a recent authority stated that in over 80 per cent. of cases the origin could not be ascertained with any certainty. He attributed that fact to the frequency of

mixed conditions, any one of which might be to blame, especially in rural districts. His conclusions were based on 206 cases of enteric fever reported to him during six and a half years while he was acting as medical officer of health of the West Lancashire Rural District. Dr. Peck gave a detailed description of the local conditions of environment, together with a history of cases and groups of cases and definitions. Briefly stated his results were that out of the 206 cases nine were due to soil infection, 21 to drain effluvia, nine to pollution of watercourse, six to manure, one to water, 25 to importation, 28 to sick-room infection, 69 to various possible causes, and 38 to no ascertainable cause. He concluded (1) that sick-room infection was more common than was generally supposed; and (2) that it was far more common in the houses of the poor than of the well-to-do.

Dr. KENWOOD thought that Dr. Peck had furnished valuable evidence of a danger that had long been recognised by medical officers of health. It emphasised the need of isolating the disease in special wards.

Dr. D. WALSH (London) asked if Dr. Peck had made any similar observation in the case of summer diarrhœa, which had a somewhat close analogy with enteric fever.

Dr. J. GROVES said that the subject was of importance and had been recognised only of late years.

Dr. H. PECK reported that he had systematically inquired into all cases of summer diarrhœa, but had found direct infection in one case only, where four patients were under one roof.

Mr. J. STUART NAIRNE (Glasgow) read a paper on

The Influence of Long-continued Standing in the Production of Women's Diseases with reference to Recent Legislation.

He presented a number of tables summarising the results of an inquiry among shopwomen in Glasgow.

Mr. J. R. PHILPOTS (Parkstone) recognised the necessity of seats, but advocated special accommodation at certain times.

It was proposed by Dr. J. GROVES, seconded by Dr. H. PECK, and carried *nem. con.*:—

That this section recognises the evil effects of long standing upon the health of women, and urges the Council to promote the passage of the Bill for providing seats for shop girls (Scottish section).

Dr. J. GROVES then proposed a vote of thanks to the secretaries and to the Mayor and Corporation of Portsmouth. This was seconded by Mr. G. EASTES (London), who said that he had known no meeting in which the section had been better officered. The proposition was carried unanimously.

Dr. D. WALSH then proposed a vote of thanks to the President and Vice-Presidents, to whom in a great measure the distinguished success of the section had been due. The proposition was seconded by Dr. KENWOOD and carried unanimously.

PSYCHOLOGY.

WEDNESDAY, AUGUST 2ND.

Dr. G. H. SAVAGE (London) opened a discussion on

The Temporary Care of Incipient Cases of Insanity,

referring particularly to Clause 23 of the Lunacy Bill of 1899 as amended, headed "Temporary Care of Incipient Lunatics"—a subject already referred to in a leading article in THE LANCET[1] The avowed object of this clause was the early treatment of insanity. It was pointed out that the suggested legislation would tend to reduce what may be called illicit lunacy practice. Many medical men who declined to certify for detention in an asylum would be willing to "notify" such cases for private care. Friends and relatives of a patient objected to the word "asylum" and had a strong prejudice against a member of their family becoming a "certified lunatic." They had not, however, any objection to the patient being placed, and with as many nurses as might be needed, in a private house for care and treatment, for the stigma, rightly or wrongly, attached to the terms "asylum" and "lunatic" did not, in their opinion, apply here. Though this system of treatment was open to abuse it might yet be satisfactory in some cases. Medical supervision was, however, necessary, for nurses or attendants without it were liable to act on a *lex talionis* and return violence for violence towards some patients. On the other hand, unsuitable patients might fall into the hands of unscrupulous persons who, while accepting such cases for treatment, would cover themselves against the risk of prosecution by the Commissioners in Lunacy by enormous fees, and would restrain or hide away in attics the unfortunate patients. At the present moment much clandestine custody—it could not be called treatment—of the insane was going on. The notification of cases for private care contemplated in the Bill of 1899 was a safeguard and not a public or judicial act involving magisterial interference. In consequence the bugbear of certification in the Lunacy Act of 1890 was reduced. The general practitioner would, when this was clearly apprehended, be willing to notify cases of early insanity, and as the notification of the place of treatment to the Commissioners was also a necessary condition this would deal a death-blow to improper and unsuitable places. A medical man would hesitate to send a patient to a place when the proprietors objected to being known to the Lunacy Commissioners. The option of visiting such places would be but rarely exercised by the Commissioners and yet it would constitute a safeguard for the patient. Referring to the interval which, according to Clause 23, must elapse before a relapsed patient can be notified and placed under treatment a second time, the practical objection to this would be that there were some patients who were subject to short and sharp attacks which recur more frequently than two years after a previous attack who would be excluded from the benefits of this clause. Early cases of general paralysis and other nerve degenerations could with advantage be treated in single care and before the progress of symptoms was sufficiently marked to necessitate certification and detention in an asylum. In conclusion it was pointed out that this was not altogether a new scheme; it had been tried in Scotland and found to work well. It was important that its provisions should receive full discussion amongst mental specialists and physicians before the Lunacy Bill passed before the Committee of the House of Commons, as much might be done by amendments.

The meeting then adjourned till the following day when the discussion was resumed.

THURSDAY, AUGUST 3RD.

Dr. SEYMOUR TUKE (London) desired to see every house and every person proposing to take such patients registered and urged that some qualification in the way of experience in the treatment of insanity should be a condition in the applicant. The present system of allowing anyone who chose to do so to take charge of patients of unsound mind was a scandal. Notification was in every case desirable. Instances occurred where, owing to delay and hesitancy in taking such serious steps and measures as certification and detention in an asylum, patients reached such institutions too late.

Dr. P. W. MACDONALD (Dorchester) supported the principles underlying notification and registration and the proper qualification of those taking charge of cases. The diagnosis of early and incipient cases was very difficult.

Dr. D. BOWER (Bedford) objected to the clauses from the point of view of a medical officer of an asylum taking private patients as they would reduce the admission of early and curable cases into asylums. He admitted the fact of concealed custody, giving a recent glaring instance, and would welcome some carefully regulated system of single care which would lead to the abolition of concealed custody.

Mr. H. J. MANNING (Salisbury) was of opinion that only qualified medical men should be entrusted with the care of persons of unsound mind and that there should be a system of registration and of visitation by authorised persons, such as the local Board of Visitors.

Mr. MAHOMED (Bournemouth) suggested that a discretion might be given to the Commissioners to allow the care of more than one case in homes which were registered and inspected.

Dr. LIONEL WEATHERLY (Bath) regretted that the legislation proposed in the recent Lunacy Bill was for the time being shelved. 20 years ago he had advocated the form of treatment now proposed and the late Lord Shaftesbury endorsed his views. Supervision was very necessary in institutions of all kinds, whether in those having large numbers of patients or in those receiving a single case. The clandestine treatment of mental cases had largely increased of late years and any proper legislation which would put a stop to this harmful practice would be welcome. He feared that some of our leading consultants were not altogether blameless for many recent cases, owing to the deficiency of our lunacy laws relating to private care. The clause preventing

[1] THE LANCET, April 22nd, 1899, p. 110.

a relapsed case from being placed under care within a period of two years of a previous detention seemed absurd. It would be a practical advantage if it was made possible to receive more than one patient in private care, otherwise the benefit to be derived from this clause would be curtailed by reason of the expense of single care in the strict sense.

Dr. J. F. SUTHERLAND (Edinburgh) briefly referred to the conditions that prevailed in Scotland on this subject.

General Paralysis.

The section then proceeded to discuss the subject of General Paralysis, which was opened with papers by Dr. A. W. CAMPBELL (Rainhill) on the Relationship Between Syphilis and General Paralysis, and by Dr. P. W. MACDONALD and Dr. A. DAVIDSON (Liverpool) on Congenital General Paralysis.

Dr. CAMPBELL put forward the view that general paralysis was mainly dependent upon syphilis and that the prevention of the latter by the adoption of measures for the repression of contagious diseases would be followed by a speedy disappearance of this disease, at least in the Navy and Army, and possibly by its diminution among the civil population. This was the view of Krafft-Ebing who held that if syphilis could be stamped out general paralysis would cease to exist. Statistics showed that a large percentage of general paralytics had had antecedent syphilis, and from a consideration of figures furnished by various inquirers the conclusion was reached that syphilis was an ascertained forerunner of general paralysis in 58 per cent. of all cases of the latter disease. Of 179 males admitted to Rainhill Asylum, Lancashire, in whom a distinct history was obtainable 62 per cent. had certainly been infected with syphilis. Of 48 females 37 per cent. were certainly sufferers from syphilis and a considerable proportion of the rest had probably had the disease. It was probable that the actual percentage of syphilitic cases preceding general paralysis was greater than that just mentioned. Von Ehlers writing in 1896 stated that in Iceland, where syphilis was practically unknown, only three cases of general paralysis had ever been observed and could in all three cases be traced to syphilitic infection. Various observers in Scotland had also noted the great rarity of general paralysis among the Highlanders. In cities like Berlin, Paris, and Newcastle, where the relative proportion of syphilis was high, the proportion of general paralytics relative to the total admissions in asylums was also a high one. At Rainhill Asylum, near Liverpool, 20 per cent. of the total males admitted and 4 per cent. of the females were cases of general paralysis. The etiology of juvenile general paralysis almost invariably showed as its predominant factor hereditary syphilis. The average period between syphilitic infection and the appearance of general paralysis varied from five to 20 years. Mendel of Berlin had collected notes of 20 cases where general paralysis had been observed in married couples following syphilitic infection of one by the other. In seven instances both husband and wife developed general paralysis; in six instances the husband developed general paralysis and the wife tabes dorsalis; in three instances the husband developed tabes and the wife general paralysis; and in four instances both developed tabes. Lavallée mentioned an instance which occurred in France where five men contracted syphilis from the same woman. Of these three died from general paralysis and two from cerebral syphilis. The experiments of Krafft-Ebing were referred to, in which eight advanced general paralytics were inoculated with the virus of syphilitic chancres in various parts of their bodies, but every case of which failed to give a syphilitic reaction. The conclusion was therefore drawn that latent syphilis had rendered them immune. In the army the prevalence of general paralysis was well known, as was the presence also of syphilis. In the priesthood both conditions were rare and among gentlewomen almost unknown. The majority of observers now admitted that general paralysis was due to degeneration of the brain and nervous system the result of the circulation within the nervous system of the syphilitic toxin. The initial point of the attack was not as yet agreed upon, for while some believed that the lesion started in the nerve fibres (e.g., Tuczek), others believed that it began in the nerve-cell bodies, while some, again, held that the fine blood-vessels were the parts first affected. Fournier and others classed general paralysis as a para-syphilitic affection like tabes and one not influenced by anti-syphilitic treatment. To syphilis was also attributable the grave changes found outside the nervous system and in almost every organ and tissue of the body of the general paralytic. The alleged increase of general paralysis was now believed to be an established fact. It proceeded *pari passu* with the multiplication of syphilis and, as Krafft-Ebing put it, was the result of the "advance of civilisation and syphilisation."

Dr. P. W. MACDONALD and Dr. A. DAVIDSON pointed out facts and instances showing that congenital general paralysis was frequently associated with hereditary syphilis and was the probable outcome of that disease in a neuropathic condition.

Dr. SEYMOUR TUKE concurred in the latter view.

Mr. ALLAN MAHOOD (Appledore) could not accept syphilis as the primary cause of general paralysis.

Dr. G. E. SHUTTLEWORTH (Richmond, Surrey) referred to cases described by him long ago as idiocy or mental degeneration in children which he now would describe as juvenile paralytics, but could not estimate the frequency of syphilis as a hereditary factor.

Dr. R. MACPHAIL (Rowditch) did not believe in the alleged increase of syphilis.

Dr. T. W. MCDOWALL (Morpeth) thought that syphilis was the chief, if not the only, cause of general paralysis.

Dr. WEATHERLY thought that other forms of stress—e.g., sexual excess—played an important part in the production of general paralysis and could not accept the view regarding the exclusive action of syphilis.

Mr. J. F. BRISCOE (Alton) admitted that syphilis played some part in the production of general paralysis, but there were two other points to be noted—viz., a neuropathic tendency and another group of exciting causes.

ANATOMY AND PHYSIOLOGY.

WEDNESDAY, AUGUST 2ND.

The Presidential Address, delivered by Professor J. J. CHARLES of Queen's College, Cork, who took as his subject Recent Advances of Physiology, was briefly reported in THE LANCET of August 5th, p. 381.

Mr. STANLEY BOYD (London) then opened a discussion on

The Interaction between the Mammary Glands and the Ovaries.

Undoubted cases of cancer after removal of both ovaries had, Mr. Boyd said, retrogressed and apparently disappeared. He instanced a case of a patient who exhibited this retrogression and who 28 months after the operation was without cancer and well. There was, however, another condition to remember, and that was that incomplete success resulted in some cases. Though at first after the operation the cancer itself would undergo atrophy with temporary relief to the patient, the growth recurred with the usual fatal results. The speaker detailed other types of cancer where removal of both ovaries seemed to have no effect. Discussing the question of the results obtained by administering the extract of thyroid gland by the mouth he said that these results were uncertain and in some cases it even resulted in making the patient worse.

Dr. AMAND ROUTH (London) made a communication to the effect that the experiments of Paul Bert showed that ovulation proceeded normally after the removal of both mammary glands. He then showed that lactation was unaffected by the removal of both ovaries during pregnancy, and he considered that these combined facts established fairly well the belief that there was no essential interaction between the ovaries and the mammary glands. Several cases of mammary hypertrophy apparently due to uterine affections, such as hypertrophy of the cervix, were then alluded to and the method by which this influence was conveyed from the pelvis to the breast was discussed. Dr. Routh described a case which had been elsewhere fully reported by himself where lactation was perfectly normal in a woman whose spinal cord was destroyed by an accident at the level of the fifth and sixth dorsal vertebræ, proving that spinal conveyance of the pelvic influence was not the essential route, and he brought further evidence to show that facts known to him tended to show that lactation was due to some chemical change in the blood which in a normal gestation was produced within a short time after a gravid uterus ceased to contain a living fœtus, whether it was at once expelled with its placenta and membranes or whether it remained for a time in utero as in missed abortion or missed labour. There was

more or less sudden cessation of nutritive requirements previously needed by the fœtus, and probably a correspondingly sudden absorption into the maternal circulation of waste products involved in the separation of the placenta and in the process of involution. The bio-chemical change was almost certainly in the uterus and not in the ovaries and it was practically an internal secretion.

The Dividing Lines of the Liver.

Mr. CANTLIE (London) then demonstrated his view that the gall-bladder occupied a central position in the liver, that on either side of it lay the true right and left lobes of the liver, and that a line from the fundus of the gall-bladder to the exit of the hepatic veins divided the liver into equal portions, as was shown by injection, by weighing, and by clinical, pathological, and developmental observations. In other words, Mr. Cantlie's contention was that the present anatomical division into right and left lobe by a line drawn along the longitudinal fissure (the fissure for the obliterated umbilical vein and ductus venosus) was unscientific and consequently untrue and untenable.

Dr. PEMBREY (London) and the PRESIDENT of the section having spoken, Mr. CANTLIE briefly replied.

THURSDAY, AUGUST 3RD.

The section commenced work by a discussion upon

The Causes of the Entrance of Oxygen into the Blood in the Lungs,

which was introduced by the PRESIDENT of the section who, after discussing the opinions of Pflüger in regard to diffusion alone being sufficient to explain the passage of oxygen into the blood, stated that in his opinion the secretory activity of the living epithelium of the lung was a necessary factor in respiration.

Dr. G. ARCHDALL REID (Portsmouth) then addressed the section on

The Evidence for and against the Transmission of Acquired Characters,

which resulted in a lively discussion between himself and Dr. PEMBREY on the subject, the latter pressing him (Dr. Reid) hard for an explanation of the fact that hæmophilia occurred in males by transmission through the females.

Professor A. F. DIXON (Cardiff) then read to the section two papers which he further explained by demonstration. The first of these was on the Form of the Bladder and Prostate, and according to Professor Dixon these forms were more definite and stable than it was at present the fashion to teach. The second paper was on the Mode of Ossification of the Upper End of the Femur in Different Animal Groups.

The morning's work was finished by a communication from Dr. J. O. W. BARRATT (Wakefield) entitled "The Anatomical Structure of the Ninth, Tenth, Eleventh, and Twelfth Cranial Nerves."

FRIDAY, AUGUST 4TH.

On Friday, the last day of the session, Professor R. J. ANDERSON (Newry) delivered his views on

Some Questions concerning Asymmetry.

Some years ago the speaker had carried out some investigations with reference to asymmetry in the thickness of the skull. He had arranged his cases in such a manner as to show the number of cases in which the thickness of the skull on one side was greater than that on the other side and also to show the number of cases in which the thickness of the skull on one side exceeded that on the other only by certain definite fractions of an inch. In young skulls the markings of the convolutions were shown on the bone and it was possible to map them out, but these disappeared and in the old skull there was no trace of any convolution at all. He thought that it would be of importance if after the examination of more than 1000 skulls it could be shown that a small portion of bone became asymmetrical in one certain place. He then proceeded to discuss his investigations into the causes of asymmetrical variations in the "keels" of domestic fowls after crossing the breed with birds of a specially light strain.

The discussion was continued by Mr. A. J. H. CRESPI, Dr. MAYBURY, Dr. FORBES ROSS, and Professor DIXON.

A lantern demonstration on

The Course of the Taste Fibres

was then given by Professor DIXON, pointing to the seventh and ninth nerves as the nerves of taste. The lantern slides of two other gentlemen were also demonstrated by Professor DIXON, the first being those of Mr. J. LYNN THOMAS (Cardiff) on the Anæsthetic Areas in Two Patients in whom the Second and Third Divisions of the Fifth Nerve were Divided within the Cranium, and the second those of Professor D. J. CUNNINGHAM, F.R.S. (Dublin), on Some Points in the Section and Anatomy of the Brain of the Orang and Chimpanzee.

Dr. FORBES ROSS (London) then laid before the meeting in a paper entitled

"*On Some Points in the Histology of Red Blood Corpuscles*"

the results of his original work in this direction. Dr. Forbes Ross, after discussing some controversial points with relation to the construction of the red corpuscle, proceeded to quote arguments in favour of its being an encapsulated sac with differentiated contents, central and peripheral, reasoning from its peculiar shape when viewed on its flat surface and on edge. He attributed its shape mainly to the action of gravity on its encapsulated contents. He then described a method of recording the various stages of the actions of reagents on the corpuscles and on their contents by means of varying strengths of solutions of formalin, and exhibited models showing these results made from microscopic observations and drawings. These models and observations tended to show that a red corpuscle was an encapsulated cell containing a central fluid and peripheral viscid material; that a red corpuscle opened by cleavage at the edge through the peripheral substance as a constant occurrence; that the nucleus emerged from a newt's or frog's corpuscle in the same manner; and that cleavage took place parallel to the plane surface of the corpuscle. Dr. Forbes Ross showed models and quoted other observations in support of this view and, finally, indicated the physiological and pathological bearing on the functions of the blood corpuscle, and the possible pathological bearing in diseases involving blood pigments and their derivatives.

PATHOLOGY.

THURSDAY, AUGUST 3RD.

Mr. J. H. TARGETT (London) opened a discussion upon

The Pathology of Renal Tumours.

He called attention to the comparative frequency of new growths in the kidney during the early years of life. A series of lantern slides were exhibited which had been prepared from specimens of renal tumours occurring in childhood. For the sake of convenience the tumours were grouped as far as possible according to their primary anatomical relation with the kidney and not in respect of their minute structure, though the latter mode of classification had many obvious advantages. The first group included neoplasms originating in the peri-renal tissues, generally in close contact with the kidney, and therefore regarded clinically as renal tumours. An example of this variety consisted of a large retro-peritoneal sarcoma occupying the loin of a child. It had compressed and deformed the surface of the kidney, but had only recently begun to invade the organ through the hilum alongside of the vessels. Such growths had been known to penetrate the pelvis and travel down the ureter to the bladder without involving the kidney. Dense fibromata might also be met with in children arising from the cellular tissue around the kidney. The second group of tumours was described as subcapsular because they appeared to spring from the fibrous capsule of the kidney and for a long period remained beneath its outermost layer. Eventually the capsule ruptured and the growth extended into the surrounding cellular tissues. It was remarkable that tumours so placed might attain enormous proportions without invading the adjacent cortex of the kidney. A comparison was drawn between them and the subperiosteal sarcomata of the long bones, in which the neoplasms took origin from the deeper cellular layers of the periosteum and remained covered by the outermost fibrous layer. A tumour illustrating this variety was taken from a girl, aged three years, who died with rapid enlargement of the abdomen. The tumour measured eight inches in diameter and over one end of it the fibrous capsule of the kidney was easily traceable, while the rest of the tumour was in contact with the kidney though outside its fibrous capsule. The glandular substance was nowhere invaded. Histologically it was a vascular round-celled sarcoma. In the third group were placed the

hilum growths of the kidney. Statistics showed that the most common seat of origin for tumours of the kidney in children was that part of the gland known as the hilum. They were usually situated outside the pelvis of the ureter, in the cellular tissue surrounding the vessels and ureter, but in some instances they had been found attached to the wall of the pelvis and even projecting into its cavity. After penetrating the hilum the growth, so to speak, unwrapped the kidney and expanded the capsule. Hence the renal outline was well preserved in the early stages of the disease, but with continued enlargement much of the kidney disappeared and the remnant not uncommonly formed an inconspicuous object flattened out upon the circumference of a huge tumour. The renal structure, however, was so little altered that it was easily recognised even when the deformity caused by pressure was considerable. Several specimens of hilum growths were exhibited illustrating the various stages of their development as well as the remarkable fact that those tumours were bilateral in more than 30 per cent. of the cases. Histologically they consisted of sarcomatous tissue, glandular tissue, and striped muscle bundles in varying proportions and arrangements. Frequently the striped muscle tissue was recognisable by the naked eye owing to its density and the disposition of its bundles in whorls like a fibroid of the uterus. The areas of glandular tissue, on the other hand, were spongy and friable and mingled with a sarcomatous basis. Tumours originating in the cortex of the kidney formed the fourth group of specimens and they comprised examples of apparently innocent adenomata which had been removed successfully by operation without recurrence, as well as the more common sarcomata. The latter frequently contained glandular tubules in abundance and their malignancy was notorious. In Mr. Targett's opinion this glandular tissue was derived from embryological rests and not from included areas of true renal substance. In the last group were placed the neoplasms which were supposed to have originated from adrenal rests in the kidney. In explanation of this hypothesis examples of accessory adrenals in the kidney, liver, cellular tissues, and broad ligaments of the uterus were shown and their minute structure was described. Attention was also drawn to the anatomical characters of primary malignant tumours of the adrenal bodies in children with the view of distinguishing them from the so-called adrenal tumours of the kidney. In conclusion, it was hoped that further clinical experience would reveal considerable differences in the life-histories of these various classes of renal tumours and would thus point the way to a more successful treatment by surgical measures.

Dr. T. N. KELYNACK (Manchester) also contributed a paper on the Pathology of Renal Tumours. He commenced by referring to the immense impetus which had been given to the thorough examination of renal neoplasms by the collective investigation instituted by Mr. Paul of Liverpool in 1882, the results of which were laid before the meeting of the Association in the following year. And yet in spite of much research they had still to deplore the meagreness and uncertainty of their conclusions. Many of the published cases were rendered practically useless for pathological purposes from the cursory and incomplete nature of the examination or description of the histological characters of the growth. Unfortunately, also, the days of loose nomenclature were not yet passed. Only by an exhaustive investigation of every case of renal growth could sufficient material be accumulated to furnish data for formulating a reliable classification. It was manifest that any grouping at the present time must be more or less tentative. A desirable division was such that while pathologically correct it might be clinically useful. If possible it should indicate—(1) structural characters; (2) the seat of origin; (3) the relation to age; and (4) local and general tendencies of the growth. In attempting any convenient classification of renal growths it was essential to recognise such well-established facts as the following: whether solid or cystic, the age when they arose, whether simple or malignant, the seat of origin, and histological characters. Histologically they more or less conformed to the two great tumour types: (*a*) the connective tissue forms; and (*b*) the epithelial forms, although compound and complex varieties not infrequently occurred. It was, moreover, advisable in arranging any complete classification which might be satisfactory clinically to remember that certain growths arising in connexion with extra-renal structures could not, at least in the majority of cases, be distinguished during life from true renal growths. For some time to come they would probably be compelled to rely mainly on structural arrangement as a basis for systematic grouping. Primary renal tumours were by no means common. An examination of the Manchester records showed that they were met with in a little less than ½ per cent. of all cases submitted to necropsy. This seemed to be in accord with the return of pathologists elsewhere. In Dr. Kelynack's experience this formed from 2 to 3 per cent. of all cases of primary malignant disease examined post mortem. Even secondary growths of the kidney were far from common. From the same source it might be estimated that they occurred in about 8 per cent. of all cases of carcinoma and over 14 per cent. of all cases of sarcoma. Renal sarcomata certainly seemed to be the commonest form of abdominal growth met with in children. Comparatively little was known respecting the *etiology* of renal growths. Strong evidence, however, was forthcoming to suggest that some at least might be accounted for by embryonic defects, such as a faulty segmentation of the pro-vertebral somites development of heteroplastic remnants of the Wolffian bodies, or proliferation of adrenal inclusions. Hereditary predisposition was not a marked feature of these cases, and traumatism, although claimed by some writers, was probably a factor of no importance. Attempts had been made to show that there was an etiological connexion between renal calculi and new growth similar to that which undoubtedly existed between carcinoma of the gall-bladder and gall-stones. Renal growths occurred in all races, in both sexes, among all classes, and at all ages. Several had been met with in negro children. As to the influence of sex on the various forms of growth the present data were insufficient for the forming of a satisfactory opinion. Most writers claimed that males were more frequently affected than females, but that was not in accordance with the returns afforded by cases which Dr. Kelynack had collected. The influence of age was very striking. From an analysis of 160 collected cases Dr. Kelynack found that 84, or over 52 per cent., originated below 10 years of age and of them no less than 74 were under five years. It had also been conclusively shown that renal growths might arise during intra-uterine life. As regarded actual size there was every variety. The sarcomata often reached immense proportions. The carcinomata were usually much smaller. The average weight of 24 sarcomata from subjects whose average age was three years was over 124 ounces. There was practically no difference in the frequency with which the different kidneys were affected, and in the sarcomata, particularly the striated-cell variety met with in infancy, a bilateral involvement was frequent. A. Proceeding to consider the growths which were classed as those of a connective tissue type Dr. Kelynack said they might be divided into (I.) the simple or benign forms and (II.) the malignant or sarcomata. I. *Simple or benign growths* were extremely rare and of little or no practical importance. They were usually of a fibrous or lipomatous nature and still more occasionally angiomatous. II. *The sarcomata* constituted the great bulk of the growths of the kidney and constituted the *malignant connective tissue type*. These sarcomata might be considered according to the following characters: the period of life at which the growth developed, or their seat of origin and the histological characters. It was now generally recognised that renal sarcoma might originate during intra-uterine life. Indeed, it might reach a size sufficient to produce dystocia. Probably a number of those met with early in infancy commenced their development before birth. The rhabdomyomata in particular commenced their growth at a very early period. There was much in favour of the view that at least some of these congenital sarcomata originated in Wolffian remains. During extra-uterine life the first five years of life were peculiarly liable to malignant disease of the kidney and this was nearly always of a sarcomatous type. From an analysis of a large number of cases it was found that over 46 per cent. of those met with in early life occurred under three years of age. These numbers also tended to show that girls were a little more liable than boys. If this were so it raised a point of much embryological interest. In about half of the cases the kidneys were involved bilaterally, thus conforming to what seemed to be a more or less general tendency with paired viscera. They nearly always grew rapidly and often assumed enormous dimensions. Usually they gave rise to little or no pain and urinary symptoms were generally inconspicuous. The ureter

was not often invaded but the veins were almost always encroached upon and secondary deposits occurred in the lungs, the liver, and in the lumbar, mesenteric, and vertebral glands. But sarcoma, although specially associated with the first few years of life, might develop at any age. It was, however, rare in youth when general development was particularly rapid. The years from five to 30 were peculiarly free. From the cases collected by Dr. Kelynack it was found that adult females were more frequently affected than males. Sarcomata considered according to their seat of origin was a practical feature and one of much interest both to the pathologist and to the surgeon. The following varieties might be recognised: capsular, intertubular, hilum, and peri-renal. Sarcomata considered in relation to their structure was perhaps the most interesting and instructive division and certainly the most attractive to the student of morbid histology. It suggested relationships and affinities and already they could recognise clinical differences according to structural arrangement. The complicated combinations not infrequently met with made the question one of considerable perplexity and uncertainty. The majority of the sarcomata consisted of round and spindle cells in varying proportions. The round seemed to be the most rapidly growing and malignant character. The striated-cell sarcoma, often spoken of as the rhabdo-myoma, was met with almost exclusively in the fœtal forms and those met with in infancy. This variety was often termed the "congenital sarcoma." Mixed with the round cells were elongated and transversely striped cells. They were generally smaller and thinner than true muscle cells and had no sarcolemma. Much variation in size and degree of striation occurred. It had been suggested that this form arose from inclusion of muscle elements due to faulty segmentation of the primitive muscle plates. Some believed that the striated cells were derived from the muscle tissue of the renal pelvis. Others thought that the fibres were not to be looked upon as muscle elements at all but merely ribbings on the surface of a tissue which was non-contractile. It was suggestive to note that this curious form of cell was met with especially in hilum growths. In many of these so-called myo-sarcomata duct-like structures were met with. They generally appeared like sections of tubules lined by columnar epithelium. Apparently they were derived from true renal tubules and some observers had considered them as representing stranded uriniferous tubules encroached upon and surrounded by sarcomatous tissue. These growths, as already indicated, were very frequently bilateral, although one kidney might be much more involved than the other. Dr. Kelynack recently had the opportunity of carefully investigating a striking example met with in a child one year old. The right kidney formed a huge mass weighing 108 ounces and the left kidney was much smaller, weighing only 28 ounces. Angio-sarcomata, adeno-sarcomata, compound and complex forms, and alveolar sarcomata were also met with. Myxo-sarcoma was simply one of the ordinary forms in which myxomatous degeneration had taken place. Lipo-sarcoma had been described. Melanotic sarcoma was always secondary. All the other forms might be met with primarily. B. Growths of an epithelial type included the adenomatous growths and true carcinomata. I. *Adenomatous growths* included (1) simple adenomata; (2) trabecular cystomata; and (3) papilliferous cystomata. II. *Carcinomata*. Until recently their nomenclature had been so indefinite that it was exceedingly difficult to make any use of the old records respecting "cancer" of the kidney. Undoubtedly many, if not most, were really sarcomatous. Of recent years the sarcomata had almost monopolised the attention of pathologists and the study of the carcinomata had been much neglected. They were thus left with inadequate material for a satisfactory classification or description of the varieties of that class of renal growth. At the present time it was not possible to do more than indicate approximately their general character. Renal carcinomata probably never occurred in early life. They were uncommon before middle age. After 50 years of age they increased in frequency. They seemed to occur in two chief forms: (1) the glandular type or true carcinoma, originating in connexion with the urinary tubules; and (2) the surface or epithelial form springing from the lining epithelium of the pelvis and calyces (malignant papilloma). C. Renal growths arising from adrenal inclusions constituted an intensely interesting but most perplexing class of tumours which were supposed to originate from included suprarenal tissue. Adrenal "rests," as they were called, had been found in the peri-adrenal fat, in the tissues around the solar plexus, in the mesentery, in the broad ligaments, and within the kidney capsule. The question whether there was a relationship between certain forms of kidney growth and aberrant adrenal structures was answered by many pathologists unhesitatingly in the affirmative. It certainly was a fascinating view but the facts on which it rested were still meagre and Dr. Kelynack believed that the judgment of some might have been captured by a suggestion so attractive. Still, one was compelled to admit that there was undoubtedly a group of renal tumours which presented a structure closely resembling the zona fasciculata of the suprarenal bodies. Although of adenomatous appearance they had affinities with the sarcomata rather than the carcinomata. The number of cases on record which might fairly be considered as belonging to this class were probably under 40 in number and hence it was dangerous to attempt any conclusions. They were quite in the dark as to the influences which lead a so-called "rest" to take on indefinite growth. These tumours seemed to be commonest in males and usually occurred in middle-aged or elderly adults. In 32 cases the ages averaged—males 50 years and females 45 years. Tumours considered as belonging to that class had been described as occurring in children. Certainly curious adenomatous growths were sometimes met with in young subjects, but Dr. Kelynack had not been able to convince himself that they were of adrenal origin. Usually only one kidney was affected. Generally the growth developed slowly and long remained local. Secondary deposits occurred in many of the cases. Several believed to belong to this group had been successfully removed. Some pathologists considered that the so-called endotheliomata and endothelial sarcomata, and probably certain forms of the angio-sarcomata, were closely related to this class. There was certainly no group of renal tumours needing more thorough investigation than the so-called adenomatous group. D. The adrenal growths met with might be of two kinds: I. The benign or *simple growths* occurred as the so-called "adenomata." They were met with as (1) multiple nodules, or (2) large single forms. They presented a structure closely resembling the normal adrenal tissue. There was generally an abundant fine fibrous stroma with epithelioid cells arranged in masses or in columnar form. II. *Sarcomata* constituted the usual form of malignant adrenal growth. They were of rare occurrence, but Dr. Kelynack had been able to collect a fair number of cases.[1] They occurred at all periods of life, but a considerable proportion were met with at early ages. In some of the recorded cases manifestations of a profound nutritional change had been striking clinical features. In conclusion Dr. Kelynack thought that the time had arrived when a collective investigation might do much to further their knowledge. Of this they might be certain, if further progress was to be made in the early recognition and effectual treatment of renal tumours more precise pathological information must be forthcoming, especially with regard to the consideration of structural features in association with clinical manifestations. Only by the accumulation of exact data could they hope to formulate directions whereby the surgeon might know when he could hopefully undertake operative measures or when he would most benefit the patient by staying his hand.

Mr. ROGER WILLIAMS (Bristol) quoted statistics showing the comparative rarity of malignant tumours of renal origin. Out of 8371 consecutive cases of malignant disease only 32 had originated in the kidney, or a proportion of 0·4 per cent. Out of 7297 described as cancerous 24 and out of 1074 described as sarcomatous only eight were of renal origin.

Dr. WAKELIN BARRATT (Wakefield) remarked on the greater malignancy of renal tissue, which he thought was probably caused by tumours of the kidney more frequently arising from the congenital or embryonic tissues. In only eight out of 4118 consecutive necropsies at the Wakefield Asylum did the kidneys show any malignant growth.

Dr. LAZARUS-BARLOW (London) stated that during 36 years at St. George's Hospital there was a record of only 14 cases of primary renal growths of a malignant nature. Besides these the hospital museum contained five specimens of renal tumours, giving a total of 19. In only 10 of these was a microscopic examination available. Three

[1] Renal Growths, their Pathology, Diagnosis, and Treatment, 1898, p. 172.

of these were villous or columnar-celled carcinoma, three were spheroidal-celled sarcoma, three were round or irregular-celled sarcoma, and one was a rhabdo-myosarcoma. In his belief the microscopical appearances of a section taken haphazard gave them no real clue to the histological structure of the tumour.

Dr. E. F. TREVELYAN (Leeds) showed museum specimens, and Mr. F. S. EVE and the PRESIDENT of the section took part in the discussion.

Professor WOODS HUTCHINSON (University of Buffalo) read a paper on

The Localisation of Tuberculous Lesions of Animals and Birds,

based partly upon veterinary literature, but chiefly upon a series of 300 necropsies made during the past winter at the London Zoological Gardens. Tuberculosis spared no species or class among birds or mammals and the number of deaths from this cause in the series was 80. The differences between the lesions in man and animals were chiefly four. 1. The more general distribution of the lesions. In few of the 80 cases was the disease confined to the lungs, although in all mammals the disease killed by the lungs almost as uniformly as in our own species. In nearly all cases lesions were found in the abdomen as well. 2. The much greater tendency of the disease to attack the serous membranes of the chest. In bovines especially the pleura was almost invariably attacked, dotted by firm, fibrous masses from the size of a pea to that of a walnut, which had given to the disease its popular name among farmers "the grapes." 3. The rarity of fluid pus, the nodes being usually firm and either fibrous or caseous. 4. The comparative immunity of the bones and joints. Tuberculous osteitis was found only three times in 40 cases in mammals. In birds the distribution was strikingly different. The avian lung was almost as immune as the mammalian was susceptible. In 40 cases it was attacked in only six, and four of these contained only a few firm rounded scattered nodes. The disease was usually abdominal and the severest attack fell upon the liver. The nodes themselves were even firmer and more tumour-like than in mammals and frequently were full of calcareous matter. The conclusion of most veterinarians and Professor Woods Hutchinson was that the infection usually entered by the alimentary canal and reached the lungs through the blood or lymph. The susceptibility of the lung was in keeping with its general morbidity which made it responsible for from 25 per cent. to 40 per cent. of all deaths in our bills of mortality. Animals inoculated in the flank or abdomen died from pulmonary tuberculosis. The curious immunity of the bird's lung was believed to be due to (1) its firmer consistency and greater vascularity; (2) its small relative size—half that of most mammals; and (3) the existence of other organs of respiration, the air sacs, in which fatal mould-growths were of frequent occurrence. The food had little bearing on local distribution, as insect- and flesh-eating birds, like similar mammals, were highly immune, and grain-eaters (hens and doves) were extremely susceptible.

Dr. T. G. BRODIE (Surbiton) read a paper on the Physiological Action of Diphtheria Toxin.

Mr. C. G. SELIGMANN (London) read a paper on the Morbid Conditions met with among the Natives of New Guinea (illustrated with lantern slides).

Dr. POSADOS (Buenos Ayres) communicated a paper on Generalised Infectious Psorospermosis (with specimens).

PHARMACOLOGY AND THERAPEUTICS.

FRIDAY, AUGUST 4TH.

Dr. HUGH WALSHAM (London) read a paper on

Some Cases Treated with Erythrol Tetranitrate,

illustrated with sphygmographic tracings of the pulse. After reading the notes of the cases treated in the wards of the City of London Hospital for Diseases of the Chest he said that during the past year he had used the drug in the out-patient room in cases of aortic disease with anginal pains with success. Erythrol tetranitrate had also been given to three patients with chronic interstitial nephritis with relief in two of the cases. The drug had also been successful in a case of Raynaud's disease. He pointed out that the drug if given in chocolate tablets was perfectly safe and said that some very erroneous notions were abroad concerning the explosive properties of the drug.

The PRESIDENT of the section (Professor BRADBURY) said that he had also given erythrol tetranitrate with success in a case of Raynaud's disease and pointed out that the drug was sometimes very useful in procuring a good night's rest in the sleeplessness of chronic interstitial nephritis. With reference to dosage he had a patient taking as much as one drachm for a dose twice a day. He said he quite agreed with Dr. Walsham that any fear of explosion was quite unfounded.

Dr. ROBERT B. WILD (Manchester) then opened a discussion on

The Constitutional Treatment of Skin Diseases.

After briefly referring to that want of exact knowledge of etiology, pathology, and pharmacology in the case of the chief diseases of the skin and the remedies used for their treatment, which rendered methods still to a large extent empirical, Dr. Wild proposed for therapeutical purposes a rough classification of all diseased conditions of the skin into five groups—viz.: 1. The group of general diseases in which cutaneous symptoms were present; these were completely subordinate to the general condition and required no special treatment. 2. The skin diseases resulting from the absorption of toxic substances, usually from the alimentary canal. These might be toxic foods, drugs, or substances formed by abnormal processes of digestion. The treatment of these cases was to prevent further absorption and to eliminate the poison. 3. The purely local diseases of the skin, such as many new growths, some parasitic diseases, and the effects of direct local irritation. For these cases constitutional treatment was not required. 4. Many parasitic diseases which required a suitable soil for the growth of the parasite as well as infection by the organism. In these cases constitutional treatment was often of value by modifying the soil so as to render it less suitable for parasitic growth. 5. This group included some of the chief diseases of the skin, such as eczema and psoriasis, in which our knowledge of etiology was imperfect, but as a rule both constitutional and local factors were combined. In these cases the "alteratives" were useful drugs for constitutional treatment combined with proper local applications. The remainder of the paper was occupied by a brief consideration of the action of arsenic, antimony, sulphur, ichthyol, mercury, potassium iodide, thyroid gland, and other alteratives used for the treatment of skin diseases.

Dr. MAPOTHER (London) said that he had in cases of lichen never seen any drug curative but arsenic given as Fowler's solution for from six to 10 weeks and he liked the appearance of the conjunctival irritation as a physiological effect. It seemed to act as a tonic. Neurasthenia, if not causative, was at least concurrent in most cases with lichen. Amongst adults he had regarded eczema as a gouty manifestation and had therefore relied on piperazine and lithia with most copious drinking of soft water as the most suitable treatment internally and also externally for local trouble. Anti-gout regimen was also advisable. For 25 years he had urged that for the treatment of psoriasis careful mercurialisation was the only remedy. He had not had 5 per cent. failures and very few recurrences. For hospital patients he used inunction and for private patients small frequent doses of blue pill. In that Association and elsewhere he had often advocated his views, but the dread of mercurialisation seemed to outweigh the relief from a distressing and recurrent disease.

The discussion was continued by the PRESIDENT of the section, who said that he believed in both constitutional and local treatment. He had found Plummer's pill very useful in chronic psoriasis; thyroid extract he had also found very useful in psoriasis. He had also often observed marked pigmentation after arsenic.

Dr. NORMAN WALKER (Edinburgh) had observed pigmentation of the skin round each spot in a case of psoriasis treated with arsenic. He had found a difficulty in getting patients to take sulphide of calcium. Ichthyol he had found very useful in urticaria. He regarded thyroid extract as dangerous; he had seen a fatal case from its use.

Dr. PHILPOTS (Parkstone) had treated cases of lupus with ichthyol ammonium with good results.

Dr. WILD, replying, said that he quite agreed with the President in his remarks as to the usefulness of Plummer's pill. Ichthyol given with glycerine was taken well by children. He had seen no symptoms of poisoning with large doses. With regard to thyroid extract he quite agreed with Dr. Walker.

Dr. E. SCHIFF (Vienna) then read a paper on

The Use of the X Rays in the Treatment of Skin Diseases.

He said that in consequence of observations made by a number of experimenters that x rays had had the effect of making the hair fall out Dr. Freund of Vienna was encouraged in 1896 to use the x rays for the treatment of hypertrichosis. This proved an effective remedy against this affection. These experiments showed that the x rays affected also the lower layers of the skin and this inflammatory effect was first used by himself in the beginning of 1897 for the treatment of lupus vulgaris. The result of these experiments fully justified his expectations. The above experiences decided the further development of radiotherapeutic methods. Dr. Freund and Dr. Schiff found that the x rays could be easily graduated and that therefore the resulting inflammation could be increased or decreased as required. This inflammation caused the root of the hair to part from the bulb and was therefore of special value in all those cases where the removal of hair was required. It had not yet been ascertained if the favourable effect of the x rays in the cure of lupus vulgaris and similar diseases of the skin was due to a bactericidal effect or to the inflammation itself. One thing, however, seemed certain—namely, that molecular modifications took place in the tissues which changed chronic granulations into normal connective and scar tissue. These effects were somewhat parallel to the light treatment of Dr. Finsen of Copenhagen, although it was ascertained that the result obtained by the latter was due to chemical effects. The x rays were, therefore, according to experiments, useful in the treatment of the following diseases: (1) in affections in which the removal of hair for as long as possible was advisable—hypertrichosis, trichorrhexis, folliculitis, sycosis, favus, and herpes tonsurans; and (2) in cases where a change of the tissues in the lower layers was necessary—acne follicularis, acne rosacea, lupus vulgaris, lupus erythematodes, eczema chronicum, elephantiasis arabum, and œdema chronicum, &c. Regarding the active agent of the x rays Dr. Freund's view seemed not improbable—that they were caused by electric waves of the kind which took place in strong discharges of sparks similar to those which were produced by the currents of high potential of D'Arsonval in Paris and also those with static electricity. Dr. Schiff's paper was illustrated by some very beautiful lantern slides of patients who had been under treatment with the x rays.

Mr. J. HALL-EDWARDS (Birmingham) read a paper on

The Therapeutic Effects of X Rays on Lupus.

He showed photographs of patients before and after treatment and discussed what really happened when the x rays were applied to the body. He had come to the conclusion that the resulting dermatitis was in reality an electrostatic burn.

Dr. WALSHAM said that he quite agreed with Mr. J. Hall-Edwards. He also thought the effects produced were really electrical burns as the effects produced depended so much on the distance of the tube from the part. With reference to the action of x rays on bacteria he had exposed cultivations of tubercle bacilli to the rays for many hours without result.

Dr. WILD thought that the surrounding dermatitis was greater by x rays than by the ordinary method of scraping.

The PRESIDENT of the section said that the Section of Pharmacology and Therapeutics were very much obliged to Dr. Schiff for coming so far to read his very valuable paper before the Association. The effects produced by the x rays on lupus cases were so striking that he should certainly make use of this method of treatment on the next case of lupus that came under his care.

Dr. SCHIFF, in reply, said that he considered that the effects produced were due to the x rays and were not merely electrostatic burns. He thought the rays had some effect on tubercle bacilli in retarding their growth.

Dr. J. C. MCWALTER (Dublin) read a paper on

Some Suggestions for the Next Pharmacopœia.

Mr. E. HULSE WILLOCK (Croydon) read a paper on

The Mechanical Treatment of Certain Diseases of the Chest with Special Reference to Emphysema.

He said that during the last few years radical changes had taken place in the treatment of chest disease. The open-air treatment of phthisis and the Schott method of dealing with certain cases of heart disease had in a measure thrust drugs from the unique position which they had formerly held. The cases in which benefit might be expected from mechanical treatment were: (*a*) emphysema with or without bronchitis; (*b*) bronchial asthma; (*c*) spasmodic bronchial asthma; (*d*) dilatation of the right heart resulting from impeded flow in the lung; (*e*) a limited number of cases of phthisis; and (*f*) ill-developed chests. In all these cases respiratory exercises were of much value. Mr. Willock showed photographs of his apparatus for the respiratory exercises. With the help of this contrivance all the ordinary and extraordinary inspiratory muscles with the diaphragm were brought into action. He pointed out that by respiratory exercises were to be gained: (1) compensation for loss of tissue; (2) prolonged vitality and development of the remaining tissue; (3) relief to the right side of the heart; (4) increase of expectoration; and (5) clearing of the mucous surfaces. He thought that the application of the apparatus in phthisis was limited to a comparatively small number of cases. It was not advisable to use it in cases with cavitation or where there was hæmoptysis. He pointed out that the bacilli selected those parts of the lung where the movement was least or, more properly, where their expulsion was difficult. Mechanical exercises aimed at bringing every part of the lung tissue, even the apices, into action. By increasing the circulation they got increased nutrition. In cases of ill-developed chest mechanical exercises would be found of very great value. The results in cases in which mechanical exercises had been used had so far been satisfactory. Owing to pressure of work Mr. Willock had not been able to use the apparatus in any single case for a long period, but rather to try the effect on a great many cases for a short time. There was only one case where good results had not been obtained.

The PRESIDENT of the Section congratulated rM. Willock on his very interesting paper and expressed the hope that he might see it published *in extenso*.

Dr. WALSHAM said that he had listened to Mr. Willock's very valuable paper with great interest, especially as he had been appointed by the committee of his hospital to give some lectures to the nursing staff on the subject of respiratory exercises. On his return he should certainly have an apparatus constructed such as that described by Mr. Willock.

Photographs of Mr. Willock's apparatus in action were shown.

LARYNGOLOGY AND OTOLOGY.

THURSDAY, AUGUST 3RD.

Dr. HERBERT TILLEY (London) gave the details of a

Fatal Case of Chronic Frontal Sinus Empyema.

The patient was a young woman, aged 22 years, with almost complete bilateral nasal obstruction associated with the discharge of large quantities of pus from the nostrils and into the throat. The former was due to mucous polypi which were removed during a period of three months at her weekly visits to the hospital. The discharge of pus continued to be very free. The maxillary antra were shown by exploration (Lichtwitz's trocar and cannula) to be free from pus and hence it was concluded that the frontal sinuses and probably the ethmoidal cells were the seat of disease. The patient was very anæmic and in bad health, but she did not suffer from headache. An incision was made under the inner half of the right eyebrow, the soft parts and periosteum were retracted, and the right sinus was opened by means of a small trephine. A perforation in the septum of the sinus rendered it possible to curette both sinuses from the right. Both were full of pus and large polypoid granulations. The posterior wall of the right sinus appeared at the operation to consist of a healthy and a necrosed portion separated by a distinct line of demarcation. The right fronto-nasal canal would only admit a small probe. It was enlarged by means of a Krause's trocar, but Dr. Tilley wished that he had made a larger opening as he had recently done in some successful cases. A Luc's drainage-tube was inserted and the outside wound was closed by three silk stitches and covered with an antiseptic dressing. Three times daily the sinus was syringed out through the tube with 1 in 3000 perchloride of mercury or 1 in 60 carbolic lotion. In about 10 days' time free suppuration occurred, the wound broke open, and it was decided to reopen the right sinus, to make a much larger opening into the nose, and also to perform the radical

operation on the left sinus. This was done and drainage-tubes were inserted and again the superficial wounds were stitched up and syringing with antiseptic lotions was carried out as before. In about a week's time œdema of the left eyelid, puffiness about the lower median portion of the forehead, and great tenderness on pressure in this situation were noticed. 24 hours later the right sinus wound was opened and a vertical incision was made into the aforementioned swelling of the soft parts; a sub-periosteal abscess was thus relieved and then dressed twice daily antiseptically. Four days later a similar swelling appeared over the left parietal eminence which was also opened, bare bone being felt at the base of the abscess. Similar swellings made their appearance from time to time at different parts over the frontal and parietal bones until finally the scalp was practically undermined and drainage-tubes were inserted in four or five different places to drain away the pus coming from the bone, the outer table of which became necrotic in large patches, some of which gradually loosened and came away. As a last resort a transverse incision was made completely across the scalp from ear to ear beyond the œdematous soft parts in the hope of checking the spread of the disease, but the septic phlebitis of the diploic veins continued and ultimately after about nine months' illness which was, except for neuralgia, curiously free from pain the patient died from chronic septic intoxication. Post mortem the following conditions were revealed. The necrosis of the vault of the skull extended a little lower than the level of the torcular. The inner wall of the frontal bone was healthy. The dura mater was intact throughout, except that it was adherent all over the vault which it practically held together. The longitudinal sinus, which was visible during life through one of the large incisions, was unaffected. Both sigmoid grooves were filled with pus and about 10 abscesses each of about the size of a hazel nut were scattered through the grey and white matter of the cerebrum, some appearing on the surface of the cortex as yellow patches. The cerebellum and medulla were healthy. The petrous bone was necrosed, with a subdural abscess just below the apex of the temporo-sphenoidal lobe on the right and left sides. There were subdural pus and necrosed bone at the apex of the right petrous bone. There was pus around the cavernous sinus. Around the left Eustachian tube and carotid artery was a large abscess passing down to form a large postero-lateral pharyngeal abscess, the pus escaping into the throat by the Eustachian orifice. It was evident that pus got underneath the dura mater when the infective process reached the petro-squamosal fissure. In this way the roof of the tympanum and sigmoid grooves became affected and necrosis of the petrous bone followed. The left mastoid antrum and sigmoid groove were thrown into one cavity through a large hiatus. The bases of both lungs were consolidated and they contained a large pulmonary abscess. The kidneys and the liver were normal. Dr. Tilley thought it well to bring forward the case as showing the risks which may occur in opening the frontal sinus, and had this been the only case of its kind he should have blamed himself for want of care or skill in the operation or after-treatment. He had, however, taken very great pains with the case from the beginning, and Dr. Luc of Paris, whose skill and experience in these matters were well known, had brought forward a similar case to this meeting; moreover, he (the speaker) had within the last three days seen a third case under the care of a well-known and brilliant young surgeon who was nothing if not antiseptic. Possibly too severe curetting in the upper region of the sinuses may have opened up some of the diploic spaces in the bone into which septic organisms gained entrance. The condition was a most grave one, and when once septic osteomyelitis had arisen he thought that the only treatment which could save the patient was to turn the soft parts well off the bone in which the suppurating process had shown itself and then by means of a large trephine or chisel and mallet to remove the outer table well into the healthy regions, and by constant antiseptic dressings to get at the actual source of mischief in the septic thrombosed diploic veins.

TROPICAL DISEASES.

THURSDAY, AUGUST 3RD.

Captain W. J. BUCHANAN, I.M.S., contributed a paper to the discussion on

Sprue

(*vide* THE LANCET, August 12th, p. 462). In this paper the author stated: (1) that primary or protopathic sprue was common among the natives of India; (2) that secondary sprue, following on (*a*) dysentery, and (*b*) acute enterocolitis or enteritis was common; (3) that incomplete or arrested sprue was probably very common; (4) that the condition known as "famine diarrhœa" was essentially the same in its symptoms and ultimate results as sprue; and (5) that in many cases of chronic relapsing dysentery a condition strongly resembling fully-developed psilosis was met with, and that characteristic frothy pultaceous diarrhœa alternated with the dysentery.

Mr. CANTLIE (London) read a paper on

Supra-hepatic Abscess.

He described supra-hepatic abscess to be a formation of pus between the layers of the broad ligament of the liver, having the diaphragm and the liver above and below respectively. He demurred to the idea that liver abscess was a definite disease but held that the various abscesses might be classified according to their situation as being supra-hepatic, intra-hepatic, and perhaps infra-hepatic. Intra-hepatic abscesses were of an infective or pyæmic nature arising from ulcerative changes in the intestine, but a supra-hepatic abscess originated independently of dysenteric lesion or of disease of any abdominal organ. The settlement of the unceasing discussions as to the universality of antecedent dysentery being the cause of liver abscess, Mr. Cantlie contended, was secured by the separation of hepatic abscesses into the groups indicated, the supra-hepatic being the true non-dysenteric variety. The etiology of the abscess he ascribed to a lymphangitis of the vessels between the layers of the broad ligament of the liver, arising most commonly from chill. The onset was sudden and the symptoms were characteristic—fever, cough, and some respiratory distress. A "fleeting" congestion of the base of the right lung tended to obscure the presence of supra-hepatic dulness in the area of the right nipple line. The dull area when percussed out was in shape like an inverted saucer or cup on the pulmonary-hepatic line with its blunt apex a little internal to the right nipple line. When it was allowed to run its course the pus tended to advance upwards through the diaphragm to the base of the right lung whence it was expectorated through a bronchus. Post-mortem examination might show the liver to be healthy and with no evidence of peri-hepatitis. In the chest the only abnormality might be pleuritic adhesion of the adjacent surface of the right lung base and upper surface of the diaphragm and a purulent tract through the lung to a bronchus. As regards treatment Mr. Cantlie deprecated leaving the pus to find its way to the surface and advocated very early aspiration in the hope of either relieving local inflammation or of diagnosing the presence of pus. When pus was found tapping and draining by the trocar and cannula, as recommended by Dr. Patrick Manson, was the safest and most expedient plan.

Inspector-General TURNBULL, R.N., stated that he had treated in Hong-Kong three liver abscesses of the nature described by Mr. Cantlie. The symptoms and signs seemed to declare the pus to be supra-hepatic. He had employed the tapping and drainage method recommended by Dr. Patrick Manson with complete success in each case.

Captain LAMB, I.M.S., said that he had found sterile pus in liver abscesses situated in various positions in the liver.

Dr. E. CHARLES (Rome) stated that he considered the presence of leucocytosis as a valuable aid to diagnosis when pus was suspected in the liver. He considered that abscesses which were opened by the abdominal wall were calculated to do better than those approached by way of the thorax.

Dr. PATRICK MANSON (London) stated that perhaps the explanation of pus being sterile might be found in the death of the etiological micro-organism. Dr. Manson also pointed out that the presence of the amœba coli being missed in microscopic examination of liver pus was owing to the fact that the amœba did not appear in the pus until about the third or fourth day after the commencement of its flow.

Dr. SAMBON (London) remonstrated against the term "sterile" pus, as a collection of pus must be caused by some irritant. He considered the amœba coli as the primary agent in the process but believed that streptococci and other similar contaminations were probably only secondary.

Dr. RHO (Italy) did not consider supra-hepatic abscess to be a tropical ailment, but he thought that it was of special interest in tropical pathology on account of the differential

diagnosis between the true hepatic abscess and the suprahepatic abscess.

Dr. E. HENDERSON (Shanghai) stated that the metal drainage-tube used by Dr. MacLeod of Shanghai was a great improvement upon the method of drainage by indiarubber.

Colonel MACLEOD (Netley) drew attention to the dangers from hæmorrhage after punctures made in the liver during aspiration. He referred to a number of cases, recorded by Lieutenant-Colonel Hatch of Bombay, where fatal issues had followed the free use of the needle.

THE PATHOLOGICAL MUSEUM.

EXHIBITS FROM THE HASLAR HOSPITAL.

In the centre of the room utilised for this purpose stood two cases containing for the most part somewhat antiquated specimens of injuries to various parts of the skeleton. These, in most instances, did not possess sufficiently descriptive labels, but, as far as could be gathered, the injuries were chiefly caused by falls from aloft—a frequent accident, history tells us, when sailing-ships were in vogue. Among the specimens may be mentioned fracture of the pelvis, fractured patella with elongated fibrous union, fracture-dislocation of the cervical spine (which the patient must have survived a considerable time), compound fractures, and numerous instances of mal-union. There were also shown several old spherical bullets from the Chinese and Crimean wars, probably extracted from wounds, and one of these latter was imbedded in the great trochanter with extensive bone exfoliation all round; the skeleton of a Chinese lady's foot; numerous dry specimens of necrosis of syphilitic and traumatic origin; and fractures and sabre wounds of the skull, some of which showed how small damage to the outer table may be attended by very extensive damage to the inner table. An interesting specimen, taken from a patient who apparently (there was no label) survived the injury for a considerable time, showed a spherical bullet lodged in the right sphenoidal fissure which had entered the outer canthus of the left eye and traversed both orbits. Many of the specimens were of some antiquarian interest. The only modern exhibits were a Lee-Metford and some Dum-dum bullets, apparently straight from the factory. The wet specimens from Haslar were more interesting. One specimen showed rupture of the heart due to a fall from aloft—the rupture going, as far as could be seen through the partially opaque spirit, transversely across the left ventricle, but no particulars of age &c. were given. Another specimen was labeled "Abscess of left ventricle of heart," but it had considerable resemblance to a gumma the centre of which had softened. The specimens of tuberculous, enteric, and dysenteric ulceration of the intestine were good and would be very useful if they were remounted. An opportunity was afforded members of the Association of visiting the museum at Haslar whence these specimens were taken. It contains a very fair collection of zoological specimens, but practically none beyond the above which could be studied by those who wish to continue their pathological studies. Indeed, many of our smaller provincial hospitals could show much larger and better-kept collections of morbid specimens, such as would afford the means whereby a young man fresh from a well-equipped medical school could follow out "the intellectual problems to which he has dedicated his life." Haslar is a hospital capable of containing between 1500 and 2000 beds, and there ought, we think, to be attached to it a permanent professor of pathology with an adequate staff under him for teaching and research who could utilise the new laboratory for bacteriological training and research, for the making and preservation of museum specimens, and for the execution of Roentgen ray skiagrams. However, these points have no doubt received the attention of the Departmental Committee which has now concluded its sittings. We understand that a special room has already been built for x ray work and a complete set of apparatus ordered.

SKIAGRAMS.

The Haslar Hospital sent no skiagrams, but the exhibits of Roentgen ray photographs from the Victoria Hospital, Netley, were numerous and, on the whole, excellent. They show the special bearing and transcendent use which this new branch of science has in military and naval surgery, and in addition to other uses which are daily coming to light, such as those referred to below, they show what a change has come over the methods of searching for bullets. Even the younger amongst us can recollect the fruitless search with Nélaton's and many other kinds of probe. Now all that is changed. The surgeon refers these cases to the photographic laboratory which all well-equipped hospitals, even the smallest of them, possess, and the exact site of the bullet—subject to limitations to which we shall shortly refer—is decided.

Many of the skiagrams sent by Colonel W. F. Stevenson, R.A.M.C., were extremely well done and showed the position of the bullets, spicules of bones, and other foreign bodies with great precision. Without the x-rays bullets which were embedded in the soft parts of the arm in one case, of the thigh in another, and of the back in another, would probably never have been discovered and the patients, being unrelieved, would have been a permanent charge on our pension list instead of, as at present, going once more on active service. If the authorities would only realise the true economy of such apparatus there would be no delay or difficulty in the matter.

Mr. Jonathan Hutchinson, jun., exhibited some excellent skiagrams showing the value of his method of reducing a separation of the lower epiphysis of the femur by forcible flexion, and Dr. Henry A. Roome showed some good skiagrams made from cases in the Portsmouth Hospital, chiefly from Dr. Ward Cousins's cases.

Whether we shall ever succeed in getting a useful representation of morbid changes in the lungs, the heart, and the other viscera still remains to be seen. Dr. David Walsh exhibited some successful skiagrams of scattered miliary tuberculosis of the left lung, with pleuritic adhesions on the right, verified by post-mortem examination; a case of fractured ribs; a case of congenital absence of both clavicles in a boy; a hæmophilic knee-joint; and a slow-growing non-malignant abdominal tumour which apparently presented some calcareous spicules.

Dr. Hugh Walsham exhibited one of the best series of skiagrams of visceral lesions which we have yet seen. For instance, skiagrams from cases of aneurysm of the heart, of enlarged bronchial glands, of two cases of aneurysm of the aorta with skiagram of normal chest beside for comparison, and of one case of pneumonia, all showed the lesion remarkably well. Those of two cases of pulmonary tuberculosis, one of them with cavities, and of a case of fibroid phthisis, did not show the lesion so well as the one noticed above. If some of Dr. Walsham's skiagrams had been printed a little lighter they would, we venture to think, have shown more detail; but the whole procedure is yet in its infancy. To be able successfully to deduce facts from such skiagrams two conditions are necessary: (1) to know the length of exposure and other conditions under which the picture has been produced; and (2) to have a similar skiagram of a normal organ for comparison, produced under precisely the same conditions in all respects. Dr. Walsham also exhibited a skiagram of Mr. Clement Lucas's case of cross-legged progression[1] and an enormous skiagram (one and a half feet by two feet) of a case of stone in the kidney which was discovered by this means and afterwards successfully removed, kidney and all. The chief use of the Roentgen rays at the present time is for such cases and for the localisation of foreign bodies. But even here there is a limitation—namely, the difficulty of ascertaining the third dimension in space. This is especially the case with foreign bodies in the eye or orbit, when it is not possible to learn the exact depth at which the body is situated. This difficulty Mr. Mackenzie Davidson has overcome by taking two skiagrams from two different points, distant from each other six centimetres (the distance between a person's eyes) and then importing the principle of the stereoscope so that the exact relation of the parts is seen. This painstaking observer exhibited some beautiful skiagrams in which this principle was employed, and thus could be seen the exact position of pins in dressings, a needle in the orbit, &c.

GUNSHOT WOUNDS.

The exhibition of skiagrams of gunshot wounds on the whole, especially those from Netley, was highly creditable, but we must confess to a feeling of some disappointment that none of the exhibits bore directly on that important

[1] Transactions of the Clinical Society of London, 1881, p. 22.

question which is so prominently before the public—viz., the comparison of the wounds made by the various bullets in use at the present time. Readers of THE LANCET are aware that the present bullet in general use is a long, slightly tapering one with a rounded anterior end consisting of a leaden core and a jacket of tin or some other metal. Fired with the velocity which it attains from the Lee-Metford rifle it goes through the soft parts as a stiletto would, leaving a small circular opening both at its entrance and its exit of about the size of a thick pencil, as several preparations and pictures from Netley showed. But if the bullet happens to touch a bone or any hard substance it breaks it into a hundred fragments which scatter in all directions, enlarge the entrance wound, produce a jagged cavity inside the limb, and a ragged exit-wound sometimes as large as the palm of the hand. Specimens from Netley (Nos. 164–9), of recently amputated legs which had been fired at with a Lee-Metford bullet, accompanied by photographs, showed this very well. The bones of one leg were broken into 28 small and several large fragments. When this bullet does not touch a bone it passes through as just mentioned and produces so little immediate effect on the wounded person that he neither stops nor falls for some minutes. In combats with savages this was found to be a serious disadvantage, and our soldiers discovered that the only way to obviate this was to file off the rounded end. Then, the moment the flattened or slightly concave surface comes in contact with any substance, however soft, even water, it breaks up into a hundred fragments. It was in this way that the Dum-Dum bullet with its cup-shaped dip at the anterior end came into use. Many of the other specimens from Netley were of interest. Thus the starring of the skull which results from high-velocity bullets, the extensive damage to the inner table, the fact that a bullet may remain embedded among the big vessels of the thorax just outside the pericardium for 11 years of a man's life, and the effects of gunshot wounds on almost every part of the body received ample illustration

MISCELLANEOUS.

Among the wet specimens special mention must be made of some excellent anatomical preparations showing the parts fixed *in situ* by the formalin method and marked with reference letters for purposes of demonstration. Thus the basal parts of the brain, the kidney hardened *in situ* with relationships marked, and the liver similarly marked prepared by Dr. A. Keith, would be most valuable additions to the educational appliances of any medical school. Among the pathological preparations similarly treated nothing could be more perfect than the specimens of hydatid of the liver, of miliary tuberculosis of the lung, of a petrous bone from a case of streptococcic infection, of acute epiphysitis from a case of staphylococcic infection, and of secondary infection of the pericardium and lung from the same case. The admirable way in which the natural colour is thus preserved is an improvement of the greatest value.

Dr. William Ewart and Mr. Richard Emmett exhibited a portion of liver showing biliary obstruction and atrophy of the right lobe as a result of congenital syphilitic disease from a case of chronic jaundice with enlarged spleen, stunted growth, and other symptoms of Gilbert and Fournier's juvenile type of Hanot's disease. The fæces in this case were absolutely colourless, the left hepatic lobe was much enlarged and a gall-stone was found in the common duct. Various characteristic lesions (keratitis, perforation of the palate, periostitis, bulbous fingers, &c.) were presented by this patient who died from erysipelas. This case is of special interest at the present moment when Harley and Barrett[2] have, by means of experiments on cats and dogs, shown that ligature of one branch of the hepatic duct results in atrophy of the parenchyma of the liver and interstitial cirrhosis in the lobe of the corresponding side.

Mr. James Berry exhibited a number of thyroid gland preparations which he had removed by operation from a series of cases of goitre; and Mr. Vernon Cargill exhibited an admirable series of lesions of the eye mounted in glycerine jelly.

Among the specimens from the Portsmouth Hospital may be noticed 100 imperfect teeth removed from a large odontoma, some dermoid and ovarian cysts, aneurysms of the axillary artery and aorta, and a bullet embedded 14 years in the femur, in addition to the skiagrams above noticed.

[2] Scientific Grants Committee, Brit. Med. Jour., vol. ii. 1899, p. 222.

MICROSCOPES AND BACTERIA.

It seems somewhat strange that in a place like Portsmouth where such abundant opportunities presumably exist for the study of tropical diseases no bacterial cultures should be shown. Neither Haslar Hospital nor Netley Hospital exhibited any.

Dr. A. S. Wohlmann exhibited a series of microscopic specimens lent by Professor Achalme to illustrate the microbe which he has associated with rheumatic fever and some other forms of rheumatism. Sections of the myocardium, the mitral valve, and a cover-glass preparation of a pure culture were shown. The organism consists of thick, oblong bacillary rods, arranging themselves end to end, which appeared somewhat to resemble the anthrax bacillus. No cultures were shown. A paper was read by Dr. Wohlmann on the subject in the Pathology Section. Six specimens of Infective Endocarditis from Guy's Hospital Museum were shown by Dr. Washbourn to illustrate his paper on that subject,[3] and it would have been interesting if some of the numerous cultures obtained in that interesting malady had been exhibited.

THE ANNUAL MUSEUM.

(Continued from page 464.)

III.—SANITARY APPLIANCES, DISINFECTANTS, &c.

In this section the bulk of the space was allotted to the exhibition of disinfectants rather than to appliances. An exception to this was the interesting fireclay goods of Messrs. Twyords Limited (Hanley, Staffs.), the well-known sanitary potters. It is interesting to record also that this firm undertake to provide leadless ware. Amongst the specialities shown were the "Deluge" sanitary appliances, including a hospital water-closet basin. Mortuary slabs, hospital sinks, pathological, operating, and post-mortem tables were shown as examples of the application of high-class ware to sanitary purposes. A second example of, strictly speaking, sanitary appliances was furnished in the exhibit of Messrs. J. Defries and Sons (147, Houndsditch, London, E.C.). Most of the appliances shown, as, for example, the various forms of the Pasteur filter, were in working order. Photographs were exhibited illustrating a Pasteur filter installation on a large scale, as evidenced at the Darjiling Municipal Waterworks, where the system continues to give satisfaction. The exhibit comprised the Equifex disinfection appliances, including a spray disinfector for rooms, which is both convenient and portable. Yet a third example of a sanitary appliance was the comparatively new introduction known as the Newellite Glass Tile for wall lining, giving the appearance of enamel and being suitable for lavatories, laundries, operating theatres, and hospital wards. These opal glass tiles may be readily attached to ordinary brickwork. They are decidedly a sanitary appliance and are made by the Newellite Glass Tile Co., Limited (139, Cannon-street, London, E.C.).

In regard to disinfectants it may be observed that these were confined mostly to those which are of a comparatively non-poisonous and non-corrosive character. Izal is an example. We understand that the Government have officially scheduled izal as a non-poisonous disinfectant. As has been shown in our own columns, izal is a powerful germicide. Since pure izal was prepared from crude coke oven oil it has been now incorporated prepared in the form of soap, ointment, embrocation, and lozenges. The lozenges prove not only useful in throat affections, but in fermentative dyspepsia. Lastly, a paper impregnated with izal is prepared for the use of consumptives to receive the sputum. The stall was presided over by a representative of Messrs. Newton Chambers and Co. (Thorncliffe Collieries and 331, Gray's Inn-road, London, W.C.). A very large assortment of Sanitas preparations was offered for inspection by the Sanitas Co. (Bethnal Green, London, E.). As is well known, Sanitas is another example of a non-poisonous but effective germicide. The company, however, have added other disinfectants to their list which cannot claim to be non-poisonous. The exhibit included certain sanitary appliances, such as fumigators, inhalers, spray disseminators, &c. The exhibition of Eucryl preparations was undertaken by Messrs. Major and Co., Limited (Hull). As we have already pointed out "Bath Eucryl" is a pleasing combination of phenol and pine products to be used in the bath with decided advantages,

[3] THE LANCET, August 12th, 1899, p. 453.

besides being adapted for special cleansing purposes. Eucryl is contained also in a number of sanitary specialities, as, for example, in a tooth-paste, soap, pastilles, ointment, vapourising fluid, &c. It is also combined with formaldehyde which doubtless adds to its efficiency as an antiseptic. Close by were the soaps of the Friars Soap Co. (1, Valentine-place, Blackfriars-road, London, S.E.), the merits of which appear to be purity of composition and economy in use. To the list should be added a sanitary and medicated soap besides a cold cream and shaving soap prepared specially for sensitive skins and delicate complexions.

A well-arranged stall was that of the Amiral Soap Co. (3, Throgmorton-avenue, London, E.C.). We have already dealt with this soap in our analytical columns; it is said to reduce corpulency by external local application but definite evidence on this point from medical men appears to be wanting. The Blackman Ventilating Co. (63, Fore-street, London, E.C.) had examples of their electric motors and ventilating fans in working order and besides showed a model of their air-filter. Creolin was amongst the first comparatively non-poisonous disinfectant fluids brought before the public. As is well known, it is an alkaline, resinous, dark-brown but clear fluid which yields a milky liquid when diluted with water. The number of Creolin preparations is now large. Amongst the products of the company (Jeyes Sanitary Compounds Co., 64, Cannon-street, London, E.C.) are creolin gauze, plaster, surgical soap, sanitary soft soap, and sanitary toilet paper. Not far off were the exhibits of the Formalin Hygienic Company (9 and 10, St. Mary-at-Hill, London, E.C.). Formalin is now well known as an efficient deodorant, disinfectant, and antiseptic. Formic aldehyde may be generated from dry formalin tablets by the use of the "Alformant" lamp. It would appear, however, that formalin should be prohibited as a food preservative owing to its peculiar action on proteids. Formalin preparations now include a toilette and shaving soap, a disinfecting powder, and tablets. Space was found for the exhibition of a floor polish which has a distinct bearing on sanitary precautions by Messrs. A. H. Hamilton and Co. (106, Elliot-street, Glasgow), The "Shell Brand," as the polish is known, made specially hygienic and aromatic by the employment of certain pure materials, is designed particularly for the floors of asylums, hospitals, infirmaries, and convalescent homes. The exhibit was an interesting one and contained specimens of pure American, Russian, and French turpentine, beeswax, and specimens of flooring illustrating the excellent polishing effect of this speciality. Sanitary polishers and cleansers were the subject also of exhibition by Ronuk, Limited (83, Upper Thames-street, London, E.C.). We have commended the excellence of Ronuk polish for special purposes before. In conclusion, we may point out that a reference to the account in our columns of the exhibits of the museum of the British Medical Association last year will show that the sanitary section this year was represented on a smaller scale.

IV.—SURGICAL INSTRUMENTS AND APPLIANCES.

Contrary to what we have just said in regard to the comparatively small presentation of sanitary exhibits at Portsmouth there was, perhaps, more to be seen and inspected in the above department than there was on the previous occasion in Edinburgh. Additional space had been found for a sanitary and ambulance department in the Swan-street Board School, where Messrs. George Gale and Sons (Dominion Works, Birmingham), and Messrs. S. B. Whitfield and Co., Limited (Watery-lane, Birmingham), exhibited a variety of bedsteads for hospital and asylum use constructed on principles laid down by the late Mr. Lawson Tait. Similar appliances were shown by Messrs. Hillington Brothers (Liverpool and 11, Dyers-buildings, Holborn, London, E.C.). A comparatively new method for the sterilisation of instruments used in urethral surgery and described in THE LANCET of Feb. 18th, 1899, p. 488, was illustrated in the apparatus on the exhibit of Messrs. Evans and Wormull (31, Stamford-street, London, S.E.). The apparatus consists of a chamber provided with upper shelves upon which are placed the instruments to be sterilised. On the lower shelf a thin layer of paraform powder is sprinkled which slowly giving off a vapour sterilises the instruments. Before use, however, they should be dipped in a boric solution in order to avoid irritating the lining membrane of the urethra. An enormous variety of surgical instruments and appliances was presented for inspection by Messrs. John Weiss and Son (287, Oxford-street, London, W.). Judging from the general interest taken by the medical visitors in the exhibits at this stall it was evident that there were things to be seen of interest to the profession. The automatic cautery (Déchery) perhaps deserves more prominence than anything else. Its action depends upon the platinum knife or point being maintained at incandescence by the combustion of a minute stream of ether. It appears quite safe to use and we have already recorded this fact in THE LANCET of May 7th, 1898, p. 1266. As to the rest of the instruments shown they were much too numerous to admit of detailed description, suffice it to add that they comprised sterilisers, anæsthetic apparatus, diagnostic instruments, dissecting and post-mortem instruments, gynæcological instruments, &c. The feature of the exhibits of Messrs. Mayer and Meltzer (71, Great Portland-street, London, W.) was perhaps the selection of modern surgical instruments to meet the requirements of aseptic surgery. But the exhibit also included gynæcological instruments and laryngeal instruments possessing a novelty of some kind or other which invited inspection. The Longford Wire, Iron, and Steel Co. (Warrington) presented several models to view illustrating the advantages of their patent wire for cycle saddles, railway carriage seats, and bed mattresses. While possessing easy cushion-like properties this woven wire is enormously strong. It is said that a single wire of which the cycle saddles are made is not much thicker than cotton but yet will carry 420 lb. weight. In the same way the wire mattress will bear the weight, as was shown, of one ton without injury.

It was almost a relief to visit the aseptic operation theatre with its complete appliances designed by Messrs. Down Brothers (21, St. Thomas's-street, London, S.E.), so cool and clean did the fittings appear in the recess in which they were placed. Close by was a patent telescopic consulting-room couch shown by Messrs. Thomas J. Seyer and Co. (45, Wilson-street, Finsbury, London, E.C.). This couch is adaptable for two heights—namely, as an ordinary couch and as an operating table. It occupies floor space of 36 inches by 24 inches. A demonstration of x ray phenomena was given by Mr. Harry W. Cox (10, 11, and 28, Cursitor-street, Chancery-lane, London, W.C.) which pleased everybody, so good and promising were the results in regard not only to surgery but to medicine also. Mr. Cox exhibited every requisite necessary for practical radiography, including screens, x ray tubes, and induction coils. The last are personally supervised in the course of their construction, special attention being directed to the insulation of the secondary coil so that a maximum efficiency is insured. Some excellent x ray photographs were also placed on view by Messrs. Allen and Hanburys (43, Wigmore-street, London, W.). This exhibit also included a variety of surgical instruments and a very useful portable weighing machine with improved balanced regulator. Adjoining this stall was an exhibit chiefly of electrical appliances by a local scientific instrument maker, Mr. J. R. Penning. Here were the latest design of Crookes's tube, accumulators, coils, and resistances adapted for utilising the current from the main. The application of electricity for the production of a radiant heat and light bath was shown by the Dowsing Radiant Heat Co. (24, Budge-row, Cannon-street, London, E.C.). The principle is simple enough and depends upon the heat and light produced by the ordinary electric incandescent lamp. Attention, however, has been specially directed to the most efficient and economical means of employing the current for this purpose. A complete bed was shown provided with electric heaters and other smaller apparatus also for the application of dry hot air in rheumatism, arthritis, joint pains, &c. A number of excellent sanitary preparations for special purposes covered the stall of the Sanitary Wood Wool Co. (26, Thavies-inn, Holborn-circus, London, E.C.). This useful absorbent and at the same time hygienic wood wool is well adapted for accouchement outfits, for pads during menstruation, and other purposes where antiseptic and absorbent material is desirable. The wood wool which is the body of the fabric is manufactured under the patent of Mr. Hartmann. A natural antiseptic and deodorant wool known as Berandine was also the basis of many excellent hygienic appliances, as surgical pads, accouchement sheets, hygienic towelines and blankets, exhibited by Messrs. Brion, Pate, Burke, and Co. (6, Wool Exchange, London, E.C.). Mr. J. H. Montague (101, New Bond-street, London, W.) showed an excellent assortment of up-to-date surgical appliances, including special forms of chloroform inhalers, sterilisers, transfusion apparatus, &c. The exhibit

included some excellent x ray photographs of interesting surgical cases.

We have in the past had opportunity of recording our opinion of that excellent appliance known as the O'Connor Patent Extension Apparatus, an appliance which compensates for shortening of the leg whilst enabling ordinary shoes to be worn. As we have said, great support is given to the ankle, rendering the use of irons in most cases unnecessary. Further, the weight of the body is borne by the heel leaving the toes free and at rest and the deformity is concealed as far as possible. The O'Connor Extension Co. (2, Bloomsbury-street, London, W.C.) also exhibited some other appliances, notably a support for the lame and a boot for flat-foot. Messrs. J. G. Ingram and Son (London Indiarubber Works, Hackney Wick, London, N.E.) showed a large assortment of their improved patent seamless enemas which possess undoubted advantages for the irrigation of the vaginal passage. We are surprised, however, that in the catalogue of the museum edited by the Organisation Committee this firm should have been allowed to state that the use of the "Vonda" syringe acts *as an excellent tonic to the sexual organs and works wonders in all female complaints and weaknesses.* Messrs. Down Brothers, the well-known surgical instrument makers near St. Thomas's Hospital (21, St. Thomas's-street, London, S.E.) showed a variety of aseptic surgical instruments which evidently presented novelty and good design judging from the interest taken in their exhibits by the visitors. Some excellent preparations, chiefly for the purpose of bandages and pads, were shown by the Liverpool Lint Co. (Mark-street Mills, Netherfield-road, N., Liverpool). These included flax and cotton lints specially manufactured with a view to obtaining uniformity of quality, purity, and absorbency. In addition to examples of carbolised tow, protective lint, and splint padding this company also exhibited transpirable wool undervests, body belts and chest protectors made from lambs' wool. Some new departures in x-ray photography were demonstrated by Messrs. Isenthal, Potzler, and Co. (85, Mortimer-street, Cavendish-square, London, W.). These included a complete Roentgen installation besides many useful accessories such as the mercury interrupter and the new Wehnelt interrupter, a description of which appeared in our columns in an article on the Royal Society Conversazione.[1] The exhibit included Dr. Herschell's universal battery, which is specially designed for convenience of operation in the medical application of electricity. Some evidence of the very wide and extensive selection of surgical instruments displayed by Messrs. S. Maw, Son, and Thompson (7 to 12, Aldersgate-street, London, E.C.) may be gained from the fact that no less than seven pages of the catalogue were devoted to the list. The exhibit included aseptic instruments and dressings, clinical thermometers with special graduations, electric batteries, and urine-testing apparatus. This enterprising firm, in fact, brought forward all that would be likely to interest the practitioner and the exhibit was instructive in serving also to illustrate the recent advances of surgical skill.

(To be concluded.)

THE SIXTH INTERNATIONAL OTOLOGICAL CONGRESS.

TUESDAY, AUGUST 8TH.

IN the afternoon the Congress met in the theatre of the Examination Hall, Victoria Embankment, for the reading and discussion of papers. The President occupied the chair.

The Honorary Secretary-General announced the attendance of the following additional delegates: Dr. Allen T. Haight from the Chicago Medical Society and also from the Chicago Ophthalmological and Otological Society, and Dr. M. A. Goldstein from the Western Ophthalmologic and Oto-laryngologic Association.

The first three papers related to the measurement of the hearing power. Dr. E. SCHMIEGELOW (Copenhagen) read a paper on a New Method of Measuring the Quantitative Hearing Power by Means of Tuning Forks. The experiments which he had carried out were in connexion with the mathematical aspect of the hearing power.—In reply to Dr. DUNDAS GRANT he said that the clinical methods in use were good and practical, but he thought that they were far from being reliable. The second paper was by Professor GRADENIGO (Turin) on the Examination of the Hearing Power and on a Uniform Notation of the Results. Professor Gradenigo said that the measuring of the amount of hearing was very difficult, so much so that every observer had his own system. A uniform system should be practical and uncomplicated; the results should be easily noted without taking up much space. He then proceeded to describe the charts used in his system. Dr. RICHARD KAYSER (Breslau) followed with a paper on the Transmission of Sound through Fluid Media.

Dr. W. MILLIGAN (Manchester) read a paper on Some Observations upon the Diagnosis and Treatment of Tuberculous Disease of the Middle Ear and adjoining Mastoid Cells. In his opening remarks he alluded to the frequency with which tuberculous lesions were met with in and around the middle ear. A large proportion of the cases of suppurative middle ear disease associated with bone lesions, he said, was of a tuberculous nature and the prognosis in such cases was not favourable Pathogenic infection accompanying the disease at times masked the characteristic features and finding the tubercle bacillus in the secretion could not be relied upon. The presence of naso-pharyngeal adenoids he regarded as predisposing to the disease. The relation of nasal obstruction to tuberculosis of the middle ear deserved consideration and the resulting Eustachian catarrh produced a soil favourable to the growth of the tubercle bacillus. He was inclined to think that in some cases the disease began in the mastoid and thence spread to the middle ear. At a very early stage the bone became affected and underwent an amount of destruction almost inconceivable considering the comparatively slight external indications present. At times he had found the entire cancellous structure of the mastoid eaten away, leaving merely a bony shell. This extensive destruction of bone led to the exposure of the facial nerve in part of its course with resulting facial paralysis. Early facial paralysis in such cases should be looked upon as a probable manifestation of an underlying tuberculous lesion. Early implication and enlargement of the glands around the ear were also most important symptoms and he considered that when masses of enlarged glands occurred about the ear any discharge from the tympanic cavity should be examined for bacilli. The method of examining for tubercle bacilli which gave the most reliable results, he believed, was the inoculation of guinea-pigs. The practical difficulties encountered in removing tuberculous deposits from within bone were great and more particularly so in the temporal bone. Meningitis, tuberculous enteritis, and general marasmus were complications to be feared. Free drainage was the first essential; this implied opening the mastoid cells. Often without any objective sign the mastoid cortex would be found extensively perforated and a pultaceous mass would be exposed to view. All softened and carious bone must be scraped away and as smooth a cavity left as possible, even if this necessitated laying bare the dura mater and walls of the lateral sinus. The cavity should be allowed to granulate from the bottom. The glandular enlargement might be the result of septic absorption and would subside after removal of the cause. But many of the glands were tuberculous and at times were a source of possible systemic infection. He therefore was in favour of doing a subsequent operation for their removal.—Professor POLITZER observed that operation often accelerated death.

Dr. ARTHUR HARTMANN (Berlin) read a paper on the Absence of the External Auditory Meatus. The first case which he narrated was congenital and was met with in a newly-born child. He showed the specimens together with models of the external ear. In such a case he considered that operative interference was contra-indicated. In the second case he had observed that the condition was acquired and that it followed scarlet fever. On one side the radical operation was performed and the hearing was in great measure restored.

Dr. ALLEN T. HAIGHT (Chicago), in a paper on Naso-pharyngeal Adenoids as a Causative Factor in Ear Diseases, observed that out of 26 children whom he had examined for deaf-mutism he had found only four free from post-nasal adenoids; 16 of those examined showed marked facial deformity from mouth breathing. As regarded the operation

[1] THE LANCET, May 6th, 1899, p. 1251.

he was in favour of local anæsthesia for children over 12 years of age. Local anæsthesia made the operation absolutely free from danger. When a general anæsthetic was necessary he preferred bromide of ethyl and the sitting posture.—Professor KNAPP (New York) also expressed himself in favour of bromide of ethyl as a general anæsthetic for the operation.

WEDNESDAY, AUGUST 9TH.

On Wednesday morning the Congress met at 10 o'clock to consider "The Indications for Opening the Mastoid in Chronic Suppurative Diseases of the Middle Ear," the President being in the chair.

Professor POLITZER (Vienna), in opening the discussion, congratulated the Organisation Committee on having selected such an important question. The question, he thought, would have to be mainly considered with reference to the cases in which the symptoms were not well marked and as to the advisability of operating in such cases as frequently as some operators maintained. The clinical symptoms, he said, were at times misleading and did not correspond with the pathological changes met with during the operation; these changes might be very insignificant and the symptoms most grave. On the other hand, they might find grave changes when least expected. On this account it was more difficult to lay down fast lines in regard to the indications for operating upon the mastoid. Some surgeons on account of the impossibility in predicting exactly the pathological changes taking place in the temporal bone would not wait for the appearance of well-marked symptoms, whilst others would advocate more conservative methods. The daily experience of aural surgeons who adopted the more conservative methods showed that by vigorous antiseptic treatment, by the removal of granulations in the tympanic cavity and the attic, or by the partial removal of the wall of the attic, many cases of chronic suppuration of the middle ear could be healed. Whilst strongly advocating the radical operation in suitable cases he expressed himself opposed to the operation being done for the purpose of arresting discharge unless strenuous efforts had first been made to do so by other means. He pointed out that the operation could not be regarded as otherwise than serious when one remembered: (1) that many important structures in the vicinity might be injured; (2) the possibility of permanently impairing the hearing in those who before the operation could hear fairly well; and (3) the protracted healing process after the operation. Further anatomical research and more extended clinical observations, he believed, would cause these views to receive more general assent.

Professor MACEWEN (Glasgow) was of opinion that when a pyogenic lesion existed in the middle ear or in its adnexa which was either not accessible or which could not be effectually eradicated through the external ear the mastoid antrum and cells ought to be opened. The operation to be efficient must be thorough; if the disease revealed were extensive, so must the operation be. By the mastoid operation it was possible (1) to expose to ocular inspection all the affected area and to eradicate the disease from all recesses in the bone; (2) to secure asepsis; and (3) to prevent pyogenic extension to more vulnerable parts. He considered that lesions in the middle ear which it might be possible to remove through the external auditory meatus could be more safely removed through the mastoid. With the middle ear in a septic condition it was most difficult to secure asepsis through the external auditory meatus previously to exposing by operative treatment a fresh surface to infection. By means of the mastoid operation asepsis could be obtained first and then a fresh surface could be exposed with safety. Operations were devised not merely for the removal of granulations but for the eradication of their cause. In persistent otorrhœa it was most difficult when the bone was involved to eradicate the disease through the external auditory meatus. Cholesteatoma and tuberculous lesions with secondary pyogenic infection, he considered, could only be efficiently removed by the mastoid being opened. The question of operating in recurrent attacks of prevalent otorrhœa was, he thought, comparable with that in connexion with appendicitis. Both were pyogenic; the latter was occasioned by a well-known bacillus, and the former might be occasioned by one or other of a variety of organisms producing different pathological effects. He looked to the mastoid operation as a means of reducing the large number of so-called incurable cases of ear disease.

Professor LUC (Paris) continued the discussion, and expressed himself in favour of opening the mastoid cavities in cases of chronic otorrhœa when it was necessary to give vent to pus which was pent up, when the onset of intracranial infection was threatening or had commenced, and in order to arrest an otorrhœa which had shown itself intractable to the various methods of local treatment through the external auditory meatus, including those of extraction of the ossicles and the curetting of granulations accessible through the meatus. The operation, in his opinion, could only be regarded as urgent in the first two conditions. He advocated an efficient operation followed by curetting and antiseptic treatment of all the cavities of the middle ear. In the event of intracranial complications threatening the opening in the bone should be carried as far as the suspected region of the dura mater, but the membrane itself need only be opened if after waiting as short a period as possible the intracranial symptoms persisted or increased.

Professor KNAPP (New York), who followed, said that it was important for them to consider when the mastoid should be opened. First, when acute purulent otitis media was on the point of becoming chronic or had become chronic the opening of the mastoid was indicated both as a curative and a prophylactic measure. Secondly, in chronic suppurative otitis without symptoms of mastoid complication which had resisted local treatment and intra-tympanic operations, attico-antrectomy was indicated. The good results from intra-tympanic operation, the removal of the ossicles, and the opening of the attic unfortunately did not prove to be permanent, and although he would not go so far as to say that it would be best to abandon them altogether he thought it best not to lose much time over them. Thirdly, in chronic suppurative otitis with symptoms of mastoid complication the opening of the mastoid was indicated and the extent of the operation should be determined by the conditions met with. Fourthly, if the disease extended beyond the mastoid region of the temporal bone, the radical tympano-mastoid operation had to be followed by operation on the affected parts outside the ear.

Before the discussion became general, a paper was read by Professor LUCAE (Berlin) on the Radical Operation in Chronic Middle Ear Suppuration. Whilst admitting the usefulness of the operation he held that the practitioner should feel prouder of being able to say that he had cured many without resorting to the operation than to say that he had operated upon many patients.

Professor GUYE (Amsterdam) resumed the discussion. He could not agree that discharge from the middle ear without dangerous symptoms was an indication for the mastoid operation. He recognised the value of the operation to the patient and to humanity, but was of the same opinion as Professor Lucae. He advocated the thorough cleansing of the meatus in cases of chronic suppuration and inflation of the Eustachian tube.

Dr. MCBRIDE (Edinburgh) also expressed himself in agreement with Professor Politzer, Professor Lucae, and Professor Guye in their conservative views with regard to mastoid operations.

Professor GRADENIGO (Turin) considered that in many cases of chronic pathological conditions of the tympanic cavity the removal of the ossicles through the external auditory meatus or of the posterior superior bony wall was sufficient. The retro-auricular method would not give better results and it was attended with risk.

Dr. NOYES (New York) recommended the dry treatment with powdered boric acid inserted in the ear, as most effective, satisfactory, and not dangerous.

Dr. BARR (Glasgow) regretted that the method of operating was outside the subject of their discussion, and also the results of operative measures in chronic middle ear suppuration. He referred to those cases which did not call for any immediate or speedy operative treatment as probably the most interesting class for their consideration. Attic treatment, he thought, had been rather disparagingly spoken of by Professor Knapp. Attic treatment when carried out with a suitable syringe he had found sufficient.

Dr. MILLIGAN (Manchester) was in favour of opening the mastoid if the discharge had not ceased after 12 months' treatment.

Mr. T. MARK HOVELL (London) did not consider the persistence of the discharge in itself sufficient reason for the mastoid operation.

Dr. CRESSWELL BABER (Brighton) considered that in the absence of any symptoms apart from the discharge the

logical surgical position was not to have a mastoid operation done until all means for operating through the meatus had been exhausted. The real facts of the case ought, in his opinion, to be put before the patient.

Dr. HOLINGER (Chicago) insisted that acute middle ear disease following influenza did not permit of conservative methods, but called for immediate operation.

Mr. FAULDER WHITE (Coventry) was opposed to the impression being created that otologists were all for operations. Many people would not be operated upon, and consequently would not get treated at all for otorrhœa. When the bone was diseased he was not against operations.

The PRESIDENT said that when an operation was decided upon it must be done thoroughly to be efficient. By operating they were not certain of curing. It was exceedingly difficult to say which cases should be operated upon or to say how long a case should be gone on with in the ordinary treatment before settling upon an operation.

Dr. MOURE (Bordeaux), Dr. JANSEN (Berlin), Dr. KÜMMEL (Breslau), Professor EEMAN (Ghent), Dr. BRIEGER (Breslau), Dr. FARACI (Palermo), Dr. DE MENDOZA (Paris), Dr. HOLMES (Cincinnati), Dr. DENCH (New York), Mr. DE SANTI (London), and Dr. LEDERMAN (New York) also took part in the discussion.

Professor MACEWEN replied and pointed out that he had not said that in simple discharge operation should be resorted to. He wished it to be made known that that statement was not correct.

Professor LUC and Professor KNAPP also replied.

As a whole the Sixth International Otological Congress has been an undoubted success, and not the least successful part of the week's programme was the dinner given by the President and the Organisation Committee to their foreign guests. This took place at the Whitehall Rooms of the Hôtel Métropole on Friday, August 11th, under the presidency of Dr. URBAN PRITCHARD, and among those on the right of the President were Madame Lucae, Dr. Moure, Mrs. Dundas Grant, Professor Politzer, Madame Katz, Dr. Katz, Dr. Capart, Madame Grazzi, Dr. Ménière, Dr. Brieger, Dr. Hartmann, Dr. Lannois, Madame Moll, Dr. Benni, Mdlle. Delstanche, whilst on his left were seated Madame Moure, Dr. Grazzi, Mrs. Urban Pritchard, Professor Knapp, Dr. von Stein, Madame Mendoza, Dr. Sune y Molist, Dr. Lucae, Madame Uchermann, Professor Gradenigo, Dr. Guye, Madame Brieger, Dr. McBride, Dr. Barr. Covers were laid for over 230 members and guests of the Congress, including Professor Pucelli, Dr. Eeman, Dr. Moll, Dr. Hewitt, and others.

The toast of "The Queen," proposed by the PRESIDENT, was enthusiastically received. Dr. C. H. BENNI proposed, and Professor POLITZER responded to, "The Otological Congress." Professor Politzer referred in flattering terms to the hospitality of "this glorious country" and remarked that the English nation set a sublime example in humanity for other nations. He said that the success of the Congress was due first to Dr. Urban Pritchard who had made an ideal president and had won the hearts and esteem of all members of the Congress, and secondly to Dr. Cresswell Baber who showed untiring energy as secretary.

"Our Foreign Guests," proposed by the PRESIDENT, was responded to by Dr. GUYE of Holland, and representatives of America, Austria-Hungary, Belgium, France, Germany, Russia, and other countries represented at the Congress, and a vote of thanks to the President, proposed by Professor GRAZZI, concluded a very pleasant and entertaining evening.

THIRD INTERNATIONAL CONGRESS OF GYNÆCOLOGY AND OBSTETRICS AT AMSTERDAM.

OPENING SESSION ON AUGUST 8TH.

THE opening session of the Third International Congress on Gynæcology and Obstetrics was held in the University under the presidency of Professor Treub, President of the Congress. The chairman was supported by M. Vening Meinesz, the Burgomaster; M. Van Hall, Minister of Public Instruction; and the members of the Permanent Committee. After an introductory address of welcome by the PRESIDENT and the report of the general secretary, Dr. MENDES DE LEON, the honorary Presidents of the Congress were appointed as follows:—For France: Dr. Paul Bar, Dr. Auvard, Dr. Herrgott, Dr. Segond, Dr. Queirel, Dr. Pinard, Dr. Lefour, Dr. Crouzet, Dr. Gaulard, and Dr. Doyen. For England: Dr. Simpson, Dr. Robert Barnes, Mr. Bowreman Jessett, Dr. Macan, and Dr. Heywood Smith. For Germany: Professor Landau. For Holland: Dr. Stockvis and Dr. Rotgans. For Belgium: Dr. Fraipont. For Switzerland: Dr. Reverdin. For America: Dr. Byford, Dr. Davies, Dr. Engelmann, Dr. Gordon, Dr. Palmer Dudley, and Dr. C. E. L. Reed. For Austria: Dr. Chrobak, Dr. von Kezmarsky, and Dr. Pawlik. For Russia: Dr. Rein and Dr. Solovieff. For Spain: Dr. Fargas and Dr. Gutierrez. For Italy: Dr. Ruggi and Dr. Mangiagalli. For Finland: Dr. Engström and Dr. Heinricius. For Sweden: Dr. Lindfors. For Norway: Dr. Schonberg and Dr. Vedeler. For Denmark: Dr. Howitz and Dr. Meijer. For Greece: Dr. Consolas and Dr. Coromilas. For Portugal: Dr. Fernandez. For Roumania: Dr. Jonnesco.

The delegates of foreign Governments and scientific societies then addressed the meeting, including Dr. ROBERT BARNES, Mr. BOWREMAN JESSETT, and Dr. HEYWOOD SMITH. In the evening the Burgomaster and Municipal Council welcomed the Congress at the Town-hall, after which Professor Treub and Dr. Mendes de Leon and Mesdames Treub and Mendes de Leon held a largely attended and most enjoyable reception at the Maison Couturier.

EXCURSIONS.

Through the kindness of the Reception Committee two very pleasant excursions were made by members of the Congress. The first of these was to Scheveningen. The large party was conveyed by a special train from Amsterdam and was met by carriages at Scheveningen station. Dinner was served in the Theatre of the Kurhaus and in the evening the Kurhaus directors reserved special seats at the concert for the guests. The second excursion was to the picturesque villages of Edam and Volendam and the Isle of Marken. A special boat conveyed the excursionists who numbered about 200. After a visit to the interesting museum at Edam the party sat down to lunch and then proceeded to Marken, returning to Amsterdam at half-past six. The proverbial hospitality of our *confrères* in Holland was abundantly shown during the Congress. Besides the official dinner given by the Dutch Gynæcological Society luncheon- and dinner-parties were given by various members of the Organising Committee, including Professor Treub, Professor Kouwer, Professor Nijhoff, Dr. Mendes de Leon, and Dr. Barnouw. The appreciation by the English members of the Congress of this generous hospitality, which extended to the wives and daughters of the members, was widespread and deeply felt.

THE WORK OF THE CONGRESS.

WEDNESDAY, AUGUST 9TH.

The following papers were read:—

Dr. DELAGÉNIÈRE (Le Mans): On the Shortening of the Round and Broad Ligaments in Retroversion of the Uterus.—The paper was discussed by Dr. JACOBS, Dr. REED, Dr. GOLDSPOHN, Dr. VINEBERG, and Dr. W. ALEXANDER.

Dr. DOYEN (Paris): The Treatment of Spontaneous and Post-operative Gynæcological Fistulæ.

Dr. LA PLACE (Philadelphia): Demonstration of a Forceps for Intestinal Anastomosis.

Dr. REYNIER (Paris): Total Abdominal Hystereçtomy for Cancer of the Uterus.—The paper was discussed by Dr. DOYEN, Dr. JACOBS, Dr. JONNESCO, Mr. BOWREMAN JESSETT, Dr. PESTALOZZA, and Dr. JAUVRIN.

Dr. HEINRICIUS (Helsingfors): On the Clinical Importance of Retrodeviations of the Uterus.

Dr. ZIEGENSPECK (Munich): On Operations for Stenosis.

Dr. JONNESCO (Bucharest): Total Abdominal Castration for Adnexial Affections whether Septic or Not.—The paper was discussed by Dr. LA TORRE, Dr. REYNIER, Dr. STRATZ, and Dr. HARTMANN.

Dr. PALMER DUDLEY (New York): Intra-uterine Implantation of the Ovary.

At the afternoon session Dr. RICHELOT (Paris) introduced a discussion on the Relative Value of Antisepsis and Improved Technique for the Actual Results of Operative Gynæcology. He said that for the answer to that question it would be necessary to first examine operative results and they had therefore to discuss (1) the evolution of antisepsis, the part it had to play and its limitations; and (2) the important

modifications undergone by the technique in use of late years, and to point out how necessary it was to be a thorough surgeon in order to practise surgery with success. 1. The development of antisepsis.—With Lister's method began the revolution which created the possibility for future perfection in technique, but it was not flawless and was not so yet. In the beginning all danger was supposed to come from the air and from the invasion of wounds by atmospheric germs. Carbolic acid then reigned supreme and that first period had been termed "empirical"—not entirely without reason. Afterwards came a time of more exact researches into the various causes of infection and the preventive measures to be adopted. Morphological investigation and experiments *in vitro* became the law. That was the era of scientific credulity when nothing more was aimed at beyond making use of the best laboratory antiseptic for sick-room purposes. It was not long, however, before the discovery was made that the very best antiseptic *in vitro* did not retain its value for clinical purposes and that laboratory prognoses were not always to be relied upon. It was found that the use of antiseptics was not only inefficient but at times dangerous. Hence it gradually became more or less discredited, whilst sterilisation by heat had been daily gaining favour. That brought them to the present time. The utilisation of heat for the destruction of germs and for sterilising instruments and dressings originated with Pasteur and had well-nigh attained perfection; its assistance in the struggle against infection was not to be denied. Should it be considered as a *new* method? It was asserted to be so by a class of surgeons who owned that antisepsis had been exchanged for asepsis. It struck Dr. Richelot that here there must have been confusion of ideas. Asepsis was the aim; antisepsis the way. Heat had been substituted as much as possible for powders and solutions, but heat in itself was only the most powerful antiseptic. He would therefore continue speaking of the "antiseptic" method. Moreover, heat was not adaptable to all purposes and they could not do without other antiseptics as well. It could not be asserted that the utilisation of heat had simplified matters. On the contrary, sterilisation could only be obtained by a very complicated and expensive apparatus, demanding the most careful manipulation. It was a great mistake to suppose, as some did, that so-called asepsis was nothing more or less than ordinary cleanliness; they could safely aver that the continual effort to attain asepsis by every means had brought forth the most admirable results. The boundary line of antisepsis must now be traced. They were enabled to a certain extent to prevent themselves from carrying infection to their patients, but as personal asepsis did not destroy the existence of bacteria they were fighting with unequal weapons against pre-existent infection. For instance, if in the course of abdominal salpingotomy the purulent sac should burst "contaminating the peritoneum by its contents," if the matter was particularly infectious the patient would die, whatever might be done to avoid fatal results. It could, however, also happen that when in similar cases the focus was carefully cleansed and drained with gauze the patient recovered after a few bad days. How were they to explain that? It might be that the pus was less virulent or that the organism defended itself, no share in the recovery being due to themselves. The notion concerning the powers of self-defence in the organism had rectified the absolutism of the earlier ideas on the subject of micro-organisms (the specific gravity and degrees of virulency in microbes). Bacteriologists had acknowledged its importance and shown its mechanism by demonstrating phagocytosis. The living organism was able to defend itself, it beat off attack when not in a debilitated condition and armed with all its resisting power. If this was not the case hope was lost. They should not expect too much from *Natura medicatrix* and when in an enfeebled condition should give it the support that was wanted. Surgical art was now called upon and the importance of technique stood revealed. Antisepsis was the same for everyone and demanded only passive obedience to certain rules. On the contrary, technics varied and were subject to personal aptitude. The value of antisepsis was, within narrow limits, absolute; the value of the technics was relative and illimitated, it depended from the operating hand and from the directing head. 2. Evolution of technique.—The great technical improvements had been rendered possible by the use of anæsthetics, exact hæmostasis, and antisepsis. Instruments.—Amongst the numerous inventions under this heading that their time had produced the greater quantity could safely be consigned to oblivion. They acknowledged the value of artery clamps and were much indebted to the Trendelenburg position, but as for the rest they did not place too much reliance on instrumentary innovations. The best results were obtained by the surgeon who knew how to use his hands and his common sense. Surgical ability in the widest sense of the term was comprised in the three chief qualifications: dexterity, ingenuity, and judgment. Dexterity varied in its nature—some possessed the gift by birth, others never acquired it, and most managed to do so, and to develop it by practice. Anyone could observe that by himself. An able surgeon operated quickly so as to minimise the dangers of a long operation—i.e., greater chances of infection, hæmorrhage, shock, &c.—although quickness of execution should never be allowed to encroach on careful operating. The ingenuity of gynæcologists had opened several entrances to the pelvic organs and taught them various methods of proceeding, although it must always be remembered that for methods, as for instruments, excess did not mean riches. The history of operative treatment of pelvic diseases, fibroids, and uterine cancer, &c., showed how important was the choice of the *operative way*. To make sure of selecting well they must have broad views on the subject. Not one of them had the right to be imperfectly educated. Methods continued to become more and more simplified and in that way lay progress. The successive extra-peritoneal and intra-peritoneal treatment of the stump and total extirpation in the abdominal operations for fibroid furnished the example. Another was found in the application of *pinces à demeure* in vaginal hysterectomy. Whatever way might be followed, whichever might be the method chosen, the details of execution would always decide the point. The true surgeon showed himself in the man who seemed to be operating easily and who managed to produce the impression that anyone else could do the same.

In the discussion the following members took part: Dr. WILLIAM ALEXANDER (Liverpool), Dr. ROBERT BELL (Glasgow), Dr. HARTMANN (Paris), Dr. JONNESCO (Bucharest), Dr. STRATZ (La Haye), Dr. DOYEN (Paris), Dr. DE REIN (Kieff), and Dr. HEYWOOD SMITH (London).

THURSDAY, AUGUST 10TH.

The following papers were read:—

Mdlle. CATHARINE VAN TUSSCHENBROEK (Amsterdam): On Ovarian Pregnancy. She said that the specimen which was the object of the demonstration was obtained by an operation of Professor Kouwer of Utrecht. The case was one of hæmorrhage into the peritoneal cavity with all the characteristic clinical symptoms of ruptured ectopic pregnancy. The patient was 31 years of age, mother of five children, and was in good health until the moment of the catastrophe. Her last menstruation was six weeks previously. The diagnosis of ruptured ectopic pregnancy was made and laparotomy was performed at once. As soon as the abdomen was opened a great quantity of dark-coloured blood gushed forth. The patient was brought into Trendelenburg's position. The uterus proved to be soft and somewhat enlarged. The left ovary and tube were normal; at the right ovary was found a tumour as large as a walnut, to which blood-clots adhered. The right ovary and tube were removed. The tube was quite normal; the fimbriæ were somewhat conglutinated but the lumen was free. Pathological adhesions between the ovary and the tube did not exist. The tumour and the ovary showed near its top the place of rupture, from which a ruddy fringe came forth. After being hardened the specimen was opened by a median section going through the fringed opening. By this section the gestation sac in the tumour was cut in two halves and an embryo appeared of about 12 millimetres in length, fixed by a short and thick umbilical cord. Macroscopical inspection left no doubt that the case was one of ovarian pregnancy. Microscopical investigation showed that the impregnated ovum had developed within a Graafian follicle. That was proved by the fact that the wall of maternal tissue which surrounded the ovum showed the structure of the ruptured Graafian follicle—the well-known corpus luteum. Decidual transformation of the connective tissue in the ovisac was nowhere to be found. The fœtal elements were quite the same as in normal uterine placentation. The fœtal villi showed the plump and irregular forms which belonged to this early stage of pregnancy. Their epithelial

investment consisted of two layers—Langhaus' cells and the syncytium. The latter was in many places ciliated. The conclusions which Mdlle. van Tusschenbroek came to were as follows: 1. Ovarian pregnancy was a fact. 2. Ovarian pregnancy meant pregnancy in a Graafian follicle. 3. The wall of the pregnant Graafian follicle not being transformed into decidual tissue they must conclude that for the implantation of the ovum Webster's decidual reaction was not a *condtio sine quâ non*. 4. One piece showing a regular development of characteristic syncytium they had a new and incontestable proof that syncytium had nothing to do with uterine or tubal epithelium and was an offspring of the fœtal ectoblast.—The paper was discussed by Dr. MAYER and Dr. PINARD.

Dr. DAVIS EDWARDS (Philadelphia): The Management of Labour in Abnormal Pelves.

Dr. F. LA TORRE (Rome): The Nomenclature of the Oblique Diameters of the Pelvis from the point of view of International Obstetrics.—The paper was discussed by Dr. DAVIS, Dr. TREUB, Dr. RAPIN, Dr. BAR, and Dr. PINARD.

Dr. F. LA TORRE: The Morphological Classification of Contracted Pelves.—During the discussion on this paper it was suggested that an international commission should be appointed to revise obstetrical nomenclature.—Dr. PINARD, the President of the section, nominated for this purpose the following gentlemen: Professor Treub (President), Dr. Bar, Dr. La Torre, Dr. Rapin, Dr. Queirel, Dr. de Rein, Dr. Davis Edwards, Dr. Simpson, and Dr. Freund.—The commission at once elected Dr. Paul Bar as secretary and it was hoped that the report of the commission would be presented at the Obstetrical Section of the Paris Congress in 1900.

Dr. A. FAVRE (Chaux-de-Fonds): Labour and Nephritis.

Dr. M. COSENTINO (Catania): Demonstration of Sections of the Cadaver.

Dr. F. VILLAR (Bordeaux): On Appendicitis in Women.

Dr. OSCAR BEUTTNER (Geneva): (1) Experimental Researches on Castration-Atrophy; (2) the Use of Salipyrin in Gynæcology; and (3) Vomiting of Coffee-ground Coloured Material after Anæsthesia in Gynæcological and Obstetrical Cases where Instrumental or Operative Interference had been resorted to.

Dr. E. DOUMER (Lille): On the Use of Currents of High Frequency in Gynæcology.

Dr. J. H. CARSTENS (Detroit): Abdominal Hysterectomy in Connexion with Cæsarean Section.—The paper was discussed by Dr. PALMER DUDLEY and Dr. GOLDSPOHN.

Dr. J. L. FAURE (Paris): Total Abdominal Hysterectomy in Suppurations of the Adnexa.

Dr. H. DURET (Lille): Colpohysterectomy in the Treatment of Irreducible Inversion of the Uterus.—The paper was discussed by Dr. DUDLEY and Dr. GUTIERREZ.

Dr. A. GOLDSPOHN (Chicago): Indications, Technique, and Results of the Alexander Operation in Aseptic Adherent Retroversions of the Uterus when combined with inguinal cœliotomy to liberate the organs and to resect or remove the adnexa when necessary.

At the afternoon session a discussion was held on the Influence of Position on the Shape and Dimensions of the Pelvis.—This was opened by Dr. BUÉ, Dr. PINZANI, and Dr. LA TORRE, and continued by Dr. KOUWER, Dr. NYHOFF, Dr. PESTALOZZA, Dr. ZIEGENSPECK, Dr. ENGELMANN, and Dr. PINARD.

A series of preparations was exhibited to illustrate Mdlle. van Tusschenbroek's paper on Ovarian Pregnancy.

Demonstrations.

Dr. DOYEN (Paris) gave two demonstrations of various operative procedures by means of the kinematograph. The first demonstration, on August 9th, had reference to general surgery; by this means were represented Amputation of the Thigh, Excision of the Knee-joint, Removal of the Thyroid, Excision of Cerebral Tumour, &c. The second demonstration, on August 11th, illustrated Dr. Doyen's methods of Vaginal and Abdominal Hysterectomy.

Dr. KEIFFER (Brussels) showed a number of microscopical sections illustrating the following subjects: (1) the Structure of the Normal Uterus and its Vessels; (2) the Development of the Ovum and the Corpus Luteum; (3) the Development of Fibro-Myomata; and (4) the Uterine Mucosa in Successive Phases of Menstruation.

MEDICAL MAGISTRATE.—Mr. A. H. Robinson, M.B., C.M. Edin., M.R.C.S. Eng., of Low Moor, has been appointed a magistrate for the city of Bradford.

Obituary.

ASHLEY GIBBINGS, M.R.C.S. ENG., L.D.S.

ASHLEY GIBBINGS, whose death occurred on August 6th, was born at Chichester in March, 1852, and after being educated at Hastings obtained an entrance scholarship in the medical faculty of King's College, London, in October, 1869. In 1870 he obtained a junior scholarship and was afterwards prizeman in Practical Chemistry and on the Warneford endowment. He paid special attention to dental surgery and was dental assistant at King's College Hospital in 1870 and 1871. He became a Member of the Royal College of Surgeons of England in 1873 and also a Licentiate in Dental Surgery, and although he passed the primary Fellowship he was prevented by his professional duties from presenting himself for the final examination. He was elected an Associate of King's College in 1875. After filling the office of house surgeon to the London School of Dental Surgery he was appointed assistant surgeon to the Dental Hospital of London and in 1887 succeeded Mr. S. H. Cartwright in the chair of Dental Surgery at King's College and the active work of dental surgeon at King's College Hospital, but his private occupations led him to resign these offices. He was for many years librarian to the Odontological Society and subsequently one of its Vice-Presidents. He was also a very zealous Freemason. He was an admirable teacher, very friendly and genial to his pupils, liked by his patients, and a most skilled mechanical dentist. He was buried at Chichester on August 11th.

Medical News.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* The charge of the Policlinic in the Charité has been given to Dr. Bennecke; Dr. Sklarek, editor of the *Wissenschaftliche Rundschau* has been granted the rank of Professor.—*Copenhagen:* Dr. O. Bloch has been promoted to the Ordinary Professorship of Surgery.—*Naples:* Dr. S. Coop has been recognised as *privat-docent* of Medical Pathology and Dr. E. Giordano and Dr. B. Martino as *privat-docenten* of Surgery.—*Munich:* Dr. Albrecht Freiherr von Notthaft has been recognised as *privat-docent* of Dermatology and Syphilis.—*Vienna:* Dr. Leopold von Dittel has been recognised as *docent* of Midwifery and Gynæcology.—*Würzburg:* Dr. von Frey of Zürich has been appointed to the Chair of Physiology in succession to Dr. Fick who has retired.

BOARDS OF GUARDIANS AND THEIR MEDICAL OFFICERS.—At the meeting of the Honiton (Devon) Board of Guardians held on August 5th it was stated that the guardians had instructed Mr. N. W. Spicer, the medical officer of one of their districts, to attend to the parish patients of Yarcombe at all hours without restriction. Mr. Spicer naturally objected to this and as the guardians would not alter their decision he resigned the appointment, stating that he should be wanting in self-respect if he continued in office.—The Helston (Cornwall) Board of Guardians on April 29th passed a vote of censure by 13 votes to 11 on Mr. W. Wearne, medical officer of the First District and Workhouse of the Helston Union, owing to the manner in which he had treated one of his private patients, a boy, who had sustained a fractured thigh. At the meeting of the guardians held on August 5th it was decided by 14 votes to 12 to rescind this resolution. Several of the speakers spoke in the highest manner of Mr. Wearne. The boy's employer said that Mr. Wearne had rendered all the assistance he could and the lad himself stated that he was perfectly satisfied. One of the guardians said that the matter had arisen through personal animus against the medical officer, very sensibly adding that it was an impertinence for the board to come between Mr. Wearne and his private patients. Mr. Wearne, who is also the medical officer of health of Helston, is to be congratulated upon the result of the proceedings.

SHELL-FISH AND TYPHOID FEVER.—At the meeting of the East Kerrier Rural District Council (Cornwall) held on August 5th the medical officer of health reported that he had traced a case of typhoid fever to the patient having eaten cockles gathered from the mud of Penryn river. Last year he had traced three cases to the same cause.

VACCINATION GRANT.—Mr. S. H. Rentzsch, L.R.C.P. Lond., M.R.C.S. Eng., has been awarded the Government grant for successful vaccination in the Cheshunt district of the Edmonton Union.

PRESENTATIONS TO MEDICAL MEN.—On distributing on August 6th at the Tynewydd Schools, Newbridge, Newport, Mon., the certificates awarded to the successful candidates of the recent ambulance classes, Mr. W. H. Clark, L.R.C.P. & S. Edin., the instructor, was the recipient of a smoker's cabinet as a token of appreciation for his services to the classes.—On August 11th Mr. A. S. Kelso, M.B., C.M. Glasg., of Broxburn, was presented with a gold watch, an illuminated address, and a histological microscope in recognition of his services in the district.

THE LATE MR. LAURISTON WINTERBOTHAM.—Mr. Lauriston Winterbotham died at his residence, Arundel House, Cheltenham, on August 8th. The deceased, who was in his sixty-sixth year, was the son of the late Mr. John Winterbotham, and his brother, Mr. Alderman J. B. Winterbotham, is the deputy mayor of Cheltenham. Mr. Winterbotham received his medical education at St. Bartholomew's Hospital and qualified as M.R.C.S. Eng., and L.S.A. in 1856. He shortly afterwards commenced practice in Cheltenham and was for several years surgeon to the General Hospital; upon his resigning this appointment he was elected consulting surgeon to the institution. He was also consulting surgeon to the Dispensary for Diseases of Women and Children and surgeon to the Cheltenham College. Mr. Winterbotham (who married a daughter of the late Mr. Soloman Leonard of Clifton) has left a widow and three children to mourn their loss. The funeral took place on August 11th at the Cheltenham Cemetery in the presence of a large number of people. Mr. Winterbotham was highly respected in Cheltenham and much sympathy is felt there for his widow and children.

Parliamentary Intelligence.

THE WORK OF THE SESSION.

THE session of Parliament which was brought to a close on August 9th saw a great many Bills of special interest to the medical profession introduced but very few passed into law. Early in the session the Government put before the House of Lords a Bill amending in several important particulars the lunacy laws. The measure passed through all its stages in that chamber, but in the House of Commons it got no further than the first reading, after which in view of threatened opposition and the pressure of other work it was withdrawn. Also in the House of Lords, the Government introduced the Companies (Medical Profession) Bill—a measure of a single clause declaring that "it shall be unlawful for a company under the Companies Acts, 1862 to 1898, to carry on the profession or business of a physician, surgeon, dentist, or midwife, and if any company contravenes this enactment it shall be liable on summary conviction to a fine not exceeding £5 for every day during which the contravention happens." This Bill was introduced by the LORD CHANCELLOR who at the same time introduced a measure allowing a company to carry on the business of a chemist or druggist only on condition that they employ a duly qualified manager or assistant and subject to this provision putting a company in the same position as an individual with regard to offences under Section 15 of the Pharmacy Act of 1868. The courts have decided that the word "person" in this section does not include a corporation and that consequently penalties for contravention of the section cannot be recovered from a company; hence the need for this legislation. Neither of the Bills made substantial progress even in the House of Lords but in the closing weeks of the session a step was taken in another connexion which brings legislation somewhat nearer. There were introduced into the Bill of the Board of Trade for the amendment of the Companies Acts, two clauses, one embodying the Companies (Medical Profession) Bill and the other the Pharmacy Bill. This general measure has for several years been engaging the attention of a Select Committee of the House of Lords, presided over by the LORD CHANCELLOR, and it will be introduced again next session with a view to its early passage into law. Private Members brought forward one or two measures of special interest to the medical profession. For instance, Mr. BOULNOIS introduced a Bill to repeal the conscientious objectors section of the new Vaccination Act. In the ballot for places he was unfortunate and nothing was heard of the measure. Again, the Midwives Bill, altered very much, was introduced by Mr. J. B. BALFOUR, but it made no substantial progress. On Wednesday afternoon, close upon the adjournment, it was unexpectedly reached and there was some little debate. Mr. A. DE TATTON EGERTON, in the absence of Mr. BALFOUR, moved the second reading and endeavoured to conciliate opposition by suggesting that after second reading the Bill might be referred to a committee. Mr. T. P. O'CONNOR, however, moved as an amendment the rejection of the Bill. The half-past five o'clock rule cut short the debate and it was never resumed. Another abortive Bill was the Isolation Hospitals Amendment Bill, which got through the House of Lords but failed to make progress in the House of Commons. Of the few Bills passed into law there are only four that need be mentioned here—viz., the Sale of Food and Drugs Bill, the Bill empowering and requiring the metropolitan water companies to establish intercommunication, the Bill to provide seats for shop assistants, and the Bill making special provision for the education and training of defective and epileptic children.

Sale of Food and Drugs Act.

The changes made in the Sale of Food and Drugs Bill during its passage through the two Houses of Parliament have from time to time been reported in THE LANCET, but it may be of service now that the measure has become an Act and consequently is in the form in which it will have to be administered, to give a brief outline of its provisions. First of all the Act contains an elaborate set of precautions against the importation of agricultural and other produce insufficiently marked. It empowers the Commissioners of Customs in accordance with directions given by the Treasury after consultation with the Board of Agriculture to take samples of consignments, and if they are of opinion that an offence has been committed they are to communicate to the Board of Agriculture for their information the name of the importer and such other facts as they possess or may obtain as to the destination of the consignment. The section sets out that an article of food shall be deemed to be adulterated or impoverished if it has been mixed with any other substance or if any part of it has been abstracted so as in either case to affect injuriously its quality, substance, or nature. The question of preservatives and colouring matter is dealt with, pending the result of the inquiry now going on, in a proviso which says that an article of food shall not be deemed to be adulterated by reason only of the addition of any preservative or colouring matter of such a nature and in such quantity as not to render the article injurious to health. In a separate section power is given to the Local Government Board and the Board of Agriculture to take samples. With regard to local authorities the Act says that it shall be their duty to appoint a public analyst and put in force from time to time as occasion may arise the powers with which they are invested so as to provide proper securities for the sale of food and drugs in a pure and genuine condition and in particular to direct their officers to take samples for analysis. If the Local Government Board or the Board of Agriculture after communication with the local authority are of opinion that it has failed in its duty and that its failure affects the general interest of the consumer or the general interests of agriculture in the United Kingdom, then one or the other department may direct an officer to enforce the law and the expense shall be charged to the local authority in default. The Act does not set up the proposed court of referees for food standards, but it says that the Board of Agriculture may, after such inquiry as they deem necessary, make regulations for determining what deficiency in any of the normal constituents of genuine milk, cream, butter or cheese, or what addition of extraneous matter or proportion of water in any sample of milk (including condensed milk), cream, butter, or cheese shall for the purposes of the Sale of Food and Drugs Acts raise a presumption, until the contrary is proved, that the article is not genuine or is injurious to health, and an analyst shall have regard to these regulations in certifying the result of his analysis. Further on the Act extends the Margarine Act of 1887 to margarine cheese, provides for the marking of margarine and margarine cheese and the inspection of the premises of the makers of, and dealers in, these articles and restricts the amount of butter fat permissible in margarine to 10 per cent. With regard to condensed, separated, or skimmed milk there is a provision that every tin or other receptacle containing it must bear a label clearly visible to the purchaser on which the words "machine-skimmed milk," or "skimmed milk," as the case may require, are printed in large and legible type. The maximum penalties are raised to £20 for a first offence, £50 for a second, and £100 for subsequent offences, and provision is made that where a person guilty of an offence is liable to a fine exceeding £50 and the offence in the opinion of the court was committed by the personal act, default, or culpable negligence of the person accused, he shall be liable if

the court is of opinion that a fine will not meet the circumstances of the case, to imprisonment with or without hard labour for a period not exceeding three months. The question of warranties and invoices is dealt with in a long and somewhat involved section. It provides that a warranty or invoice shall not be available as a defence unless the defendant has within seven days after service of the summons sent to the purchaser a copy of the document with a written notice stating that he intends to rely on it and specifying the name and address of the person from whom he received it, and unless he has also sent a like notice of his intention to this person. Further, the section provides that a warranty or invoice given by a person resident outside the United Kingdom shall not be available as a defence unless the defendant proves that he had taken reasonable steps to ascertain and did in fact believe in the accuracy of the statement in the document, and in a sub-section there is a special provision for the punishment of anyone giving a false warranty. The Act contains a new definition of "food"—namely, for the purposes of the Sale of Food and Drugs Act the expression "food" shall include every article used for food or drink by man other than drugs or water and any article which ordinarily enters into, or is used in, the composition or preparation of human food, and shall also include flavouring matters and condiments. All that needs to be added is that the Act comes into operation on Jan. 1st, 1900.

BOOKS, ETC., RECEIVED.

ARNOLD, EDWD., Bedford-street, London.

Manual of Human Physiology. By Leonard Hill, M.B. Illustrated. 1899. Price 6s.

BAILLIÈRE, TINDALL, AND COX, King William-street, Strand, London.

The Röntgen Rays in Medical Work. By D. Walsh, M.D. Edin. Second edition. 1899. Price 10s. 6d. net.

BAILLIÈRE, J. B., ET FILS, Paris.

Diagnostic des Maladies de la Moelle. Par Dr. Grasset. 1899.

BALE, J., SONS AND DANIELSSON, Great Titchfield-street, Oxford-street, London.

Essays and Nature Studies, with Lectures. By W. J. C. Miller, B.A. Lond. Edited, with Introduction, by H. Kirke Swan. 1899. Price 10s. 6d. net.

BEETON AND CO., Fetter-lane, London.

Professions for Boys, and how to enter them. By M. L. Pechell and J. J. Nolan, with a preface by the most Reverend J. E. C. Welldon, M.A., D.D. Second edition. 1899. Price 3s. 6d.

COLLINGRIDGE, W. H. AND L., Aldersgate-street, London, E.C.

Cultivated Roses. Edited by T. W. Sanders, F.R.H.S., F.N.C.S. 1899. Price 2s. 6d.

CHURCHILL, J. & A., Great Marlborough-street, London.

Notes on Folkestone, Historical, Climatological, and Medical. By A. E. Larking, M.D. Durh. 1899. Price 1s. 6d.

GEORGI, ARTHUR, Leipzig.

Die Mischgeschwülste. Von Dr. M. Wilms. Heft I. Die Mischgeschwülste der Niere. 1899.

Gynäkologischer Operationskurs. Von Dr. E. G. Orthmann. 1899.

Leitungsbahnen im Gehirn und Rückenmark. Von W. v. Bechterew 1899.

Die Krankheiten der Eierstöcke und Nebeneierstöcke. Von A. Martin. 1899.

GRIFFIN, CHAS. AND COMPANY, Exeter-street, Strand, London.

Atlas of Urinary Sediments, with Special Reference to their Clinical Significance. By Dr. H. Rieder. Translated by F. C. Moore, M.Sc., M.D. Vict. Edited by A. S. Delépine, M.B., C.M. Edin., B.Sc. Illustrated. 1899. Price 18s.

KIMPTON, H., High Holborn, London.

Practical Diagnosis: The Use of Symptoms in the Diagnosis of Disease. By H. A. Hare, M.D., B.Sc. Illustrated. 1899. Price 21s. net.

LAYTON, CHAS. AND EDWIN, Farringdon-street, London.

Transactions of the Second International Actuarial Congress held in London May 16th to 20th, 1898. 1899.

LEWIS, H. K., Gower-street, London.

Enlargement of the Prostate: Its Treatment and Radical Cure. By C. Mansell Moullin, M.D. Oxon., F.R.C.S. Second edition. 1899. Price 6s.

Skiagraphic Atlas of Fractures and Dislocations. By D. J. Mackintosh, M.B. 1899. Price 12s. 6d. net.

MASSON ET CIE, Paris.

La Péritonite Tuberculeuse. Par le Dr. G. Maurange.

Thérapeutique Clinique de la Fièvre Typhoïde. Par le Dr. O. Martin.

MCCORQUODALE AND CO., London.

The Myology of the Pelvic Floor. By Peter Thompson, M.D. Illustrated. 1899. Price 5s.

NEWNES, GEORGE, LIMITED, Southampton-street, Strand, London.

The Story of Eclipses. By G. F. Chambers, F.R.A.S. 1899. Price 1s.

RIVINGTON, MESSRS., King-street, Covent Garden, London.

The Essentials of School Diet. By C. Dukes, M.D., B.S. Lond. Second edition. With Prefatory Note by Sir William Broadbent, Bart, M.D. 1899. Price 6s. net.

SMITH, ELDER, AND CO., Waterloo-place, London.

Modern Cremation. By Sir Henry Thompson, Bart., F.R.C.S. Third edition. 1899. Price 2s.

SOCIÉTÉ D'ÉDITIONS SCIENTIFIQUES, Paris.

Les Troubles Mentaux de l'Enfance. Par le Dr. M. Manheimer. 1899.

STEINHEIL, G., Paris.

Traitement Chirurgical du Cancer du Gros Intestin. Par le Dr. Henri Lardennois. 1899.

SWAN SONNENSCHEIN AND CO., London.

An Introduction to the Study of Zoology. By B. Lindsay. Illustrated. 1899. Price 6s.

THIEME, GEORG, Leipzig.

Die Aerztliche Praxis im Auslande. Von Dr. J. Schwalbe. 1899.

THE DENTAL MANUFACTURING COMPANY, Lexington-street, London.

Dental Microscopy. By A. H. Smith, L.R.C.P. Lond., M.R.C.S., L.D.S. Second edition. Illustrated. 1899.

WHITTAKER AND CO., White Hart-street, Paternoster-square, London.

A Dictionary of Terms used in Medicine. By the late R. D. Hoblyn, M.A. Oxon. Thirteenth edition. Revised by J. A. P. Price, B.A., M.D. Oxon. 1899. Price 10s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.*

AIRD, IVIE, M.B., Ch.B. Edin., has been appointed Assistant Surgeon to the Liverpool Dispensaries.

BISSET, E., M.B., Ch.B., has been appointed Resident Physician to the Aberdeen Royal Infirmary.

BRODRICK, C. CUMBERLAND, L.R.C.P., L.R.C.S., L.M. Edin., has been re-appointed Medical Officer of Health for Tavistock, Devon.

COATES, C. J. A., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Tenth Sanitary District of the Wycombe Union, vice C. F. Pridham, resigned.

COLEMAN, M. O., M.D. Aberd., M.R.C.S., D.P.H. Eng., has been re-appointed Medical Officer of Health by the Surbiton Urban District Council.

COTTON, WILLIAM, M.A., M.D., C.M. Edin., D.P.H. Cantab., has been appointed, *pro tem.*, Honorary Medical Officer to the Royal Victoria Home, Brentry.

CLAYTON, W. A., L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed Medical Officer for the Sharlston and Crofton Sanitary Districts of the Wakefield Union, vice J. M. Hermon, resigned.

DALEBROOK, J., L.R.C.P. Lond., M.R.C.S., has been appointed Second Assistant Medical Officer to the St. John's-road Workhouse and Infirmary of the Parish of St. Mary, Islington, vice C. H. Furnivall.

DODD, A. M., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Surgeon to the Liverpool Dispensaries.

GORMAN, E. S., M.B., Ch. Irel., has been appointed Assistant Resident Medical Officer to the Workhouse Infirmary of the Parish of Birmingham, vice R. T. Burton, resigned.

HODSON, T. G., M.D. Durh., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the South Stoneham Union, vice D. Seaton, resigned.

JOYCE, Dr., has been appointed Medical Officer and Public Vaccinator for the Cymmer Sanitary District of the Pontypridd Union, vice H. N. Davies.

MEAKIN, ETHILDA B., M.B. Lond., has been appointed an Assistant Medical Officer to the Grove Hospital, Lower Tooting, under the Metropolitan Asylums Board.

MELDRUM, W. P., M.B., Ch.B., B.Sc. Edin., has been appointed Assistant Surgeon to the Liverpool Dispensaries.

MILLARD, C. KILLICK, M.D., D.Sc. Pub. Health, has been appointed Medical Officer of Health for the Borough of Burton-on-Trent, vice T. Robinson, resigned.

MORETON, R., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Wymondham Sanitary District of the Melton Mowbray Union, vice H. Hamilton, resigned.

O'MARA, F., L.R.C.P., L.R.C.S. Irel., has been appointed Resident Medical Superintendent for the District Lunatic Asylum, Ennis, co. Clare, vice R. P. Gelston.

PEARCE, G. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed District Surgeon to the Great Central Railway Company.

PROUDFOOT, F. G., M.B., C.M. Edin., has been appointed Medical Officer for the Sanitary District of the Oxford Incorporation, vice W. A. Thompson, resigned.

ROSS, J. A., M.D., M.Ch., L.R.C.S. Irel., has been re-appointed Medical Officer of Health by the Penistone Urban District Council.

ROWLAND, F. M., M.D. Cantab., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Workhouse of the Lichfield Union, vice H. M. Morgan, resigned.

STORRS, R., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Thornoombe Sanitary District of the Bedminster Union, vice J. A. Leishman, resigned.

SUTHERLAND, A. W. M., M.B., Ch.B., has been appointed Resident Surgeon to the Aberdeen Royal Infirmary.

WOODFORDE, W. T. G., M.D. Lond., has been re-appointed Medical Officer of Health by the Windsor Rural District Council.

Vacancies.

For further Information regarding each vacancy reference should be made to the advertisement (see Index).

BERRY WOOD ASYLUM, Northampton.—Senior Assistant Medical Officer for five years, unmarried. Salary £200, rising to £250, with board, lodging, and washing, &c.

BRIGHTON AND HOVE LYING-IN INSTITUTION AND HOSPITAL FOR WOMEN, 76, West-street, Brighton.—House Surgeon, unmarried. Salary £80 per annum, with furnished apartments, board, gas, coals, and attendance.

BRIGHTON THROAT AND EAR HOSPITAL, Church-street, Queen's-road.—Non-resident House Surgeon for six months. Salary at the rate of £75 per annum. Applications to Mr. E. W. Pilbeam, 10, Black Lion-street, Brighton.

CUMBERLAND INFIRMARY, Carlisle.—House Surgeon for one year. Salary £70 per annum, with board, lodging, and washing.

DENBIGHSHIRE INFIRMARY, Denbigh.—House Surgeon for twelve months. Salary £100 per annum, with board, residence, and washing.

DUNDEE ROYAL INFIRMARY.—Resident Medical Assistant (House Surgeon) for six months. Salary at the rate of £40 per annum. Applications to the Secretary, Mr. D. G. Stewart, Solicitor, Dundee.

DUNDEE ROYAL LUNATIC ASYLUM.—Medical Assistant. Salary £100 with board and lodging.

DURHAM COUNTY ASYLUM, Winterton, Ferryhill.—Assistant Medical Officer, unmarried. Salary £120, with apartments, board, and attendance.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich.—Second House Surgeon, unmarried. Salary £60 per annum, with board, lodging, and washing.

FINSBURY DISPENSARY, Brewer-street, Goswell-road, London.—Resident Medical Officer. Salary £120 per annum, with a furnished residence in the institution, attendance, coals, and gas.

GENERAL INFIRMARY AT GLOUCESTER AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant Physician.

GREAT YARMOUTH HOSPITAL.—House Surgeon. Salary £90 per annum, with board, lodging, and washing.

HORTON INFIRMARY, Banbury.—House Surgeon and Dispenser. Salary £80 per annum, with board and lodging.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN, 8, Hunter-street, Brunswick-square, W.C.—Lecturer in Physiology.—The Mabel Webb Research Scholarship in Pathology, Physiology, or Chemistry, value £30 a year, for two years, will be awarded in October.

MACCLESFIELD GENERAL INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board and residence in the institution.

MANCHESTER CHILDREN'S HOSPITAL.—Junior Resident Medical Officer for six months, unmarried. Salary at the rate of £80 a year, with board and lodging. Apply to the Secretary, Dispensary, Gartside-street, Manchester.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer for the In-patient Department, Bowdon, Cheshire. Salary £60 per annum, with board, apartments, and washing.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officers at the Fever and Small-pox Hospitals, unmarried. Salary £160 per annum for the first year and, subject to the direction of the Hospitals Committee, £180 the second year, and £200 the third and subsequent years, with board, lodging, attendance, and washing (subject to statutory deductions). Applications to the Clerk to the Board, Norfolk-street, Strand, W.C.

OXFORD EYE HOSPITAL.—Honorary Assistant Surgeon.

PARISH OF KIRKMABRECK.—Medical Officer. Salary £40 per annum, exclusive of medicines or medical appliances. Apply to the Inspector of Poor, Creetown, N.B.

ROCHDALE INFIRMARY AND DISPENSARY.—House Surgeon, unmarried. Salary £90 per annum, with board, residence, and laundry.

ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road, Brighton.—House Surgeon for twelve months. Salary £80, with board, lodging, and washing. No stimulants.

ROYAL DEVON AND EXETER HOSPITAL, Exeter.—Junior Assistant House Surgeon for six months. Board, lodging, and washing provided.

ROYAL HALIFAX INFIRMARY.—Assistant House Surgeon, unmarried. Salary £50 per annum, with an extra allowance of £9 2*s.* 6*d.* per annum, and residence, board, and washing.

ROYAL HOSPITAL FOR SICK CHILDREN, Glasgow.—House Surgeon and Assistant in the Dispensary for one year. Salary of House Surgeon £50, with board, and salary of Assistant in the Dispensary (non-resident) £80.

ROYAL SURREY COUNTY HOSPITAL, Guildford.—Resident House Surgeon. Salary £80, board, residence, and laundry provided.

ST. LUKE'S HOSPITAL, London, E.C.—Clinical Assistant for six months. Board and residence provided.

VICTORIA HOSPITAL, Folkestone.—House Surgeon. Salary £30 per annum, rising to £100, with board, residence, and washing.

WEST BROMWICH DISTRICT HOSPITAL.—Resident Assistant House Surgeon. Salary £50 per annum, with board, lodging, washing, and attendance.

WESTMINSTER HOSPITAL, S.W.—Pathologist. Salary £250 per annum, and £80 per annum will be allowed for expenses, including the services of an Assistant.

Births, Marriages, and Deaths.

BIRTHS.

BROADBENT.—On July 29th, at St. Aubyns, Hove, Brighton, the wife of F. W. Broadbent, M.B., of a son.

LOWIS.—On August 1st, at Pembroke, the wife of Horace L. Lowis M.B., C.M. Edin., of a son.

LAZARUS.—On August 9th, the wife of Alfred Lazarus, M.B. Edin., Wimpole-street, W., of a son.

RANSOM.—On August 9th, at The Pavement, Nottingham, the wife of William Bramwell Ransom, M.D., F.R.C.P., of a daughter.

MARRIAGES.

ADAIR—GODFREY.—On August 9th, at the parish church, Redbourne, Lincolnshire, Edward William Mahaffy Adair, L.R.C.P.I., only son of the late Samuel Adair, H.M. Inspector of Schools in Ireland, to Elsie Blanche Beauchamp, fourth daughter of the Rev. George Godfrey, M.A., vicar of Redbourne.

ARMSON—ANDERSON.—On August 9th, at St. Simon's Church, West Kensington Park, Charles James Armson, M.R.C.S., L.R.C.P., of Yoxall, Staffs, to Margaret Eliza, daughter of the late James Anderson, of Shepherd's Bush-road.

DEATHS.

HERRON.—On August 11th, at Southwark-bridge-road, James Herron, M.D., Medical Officer of Health for the parishes of St. Saviour and Christ Church, Southwark, aged 42 years.

HICKS.—On August 14th, at Longmead, Buntingford, Francis Edward Hicks, F.R.C.S., in his 90th year.

WINTERBOTHAM.—On August 8th, at Bayshill, Cheltenham, Lauriston Winterbotham, M.R.C.S., aged 65 years.

*N.B.—A fee of 5*s.* is charged for the insertion of Notices of Births, Marriages, and Deaths.*

Notes, Short Comments, and Answers to Correspondents.

"MEDICAL MEN AND HOLIDAYS."

To the Editors of THE LANCET.

SIRS,—I have read with much interest your article in THE LANCET of August 12th on the holiday question and would like to draw your attention and that of you readers to an evil connected with that question that had never entered into my mind until forcibly driven there at the present time. As you will know, we in the county of Durham have formed a union and are now fighting for an increase in our remuneration from the miners. The district in which I am in practice is one where the bitterest opposition to our demands exists, and the miners have introduced since Easter a succession of medical men (the eighth is here now) in spite of the advertisements in your columns and also in the local papers warning medical men against accepting such posts. I must say that the spirit of unionism, even amongst members of our union, is not very strong, as of the 12 members of our local committee who decided to "strike" on March 4th only one beside myself is working at the advanced rate only. In the midst of this struggle I met with a serious accident—May 18th—in consequence of which I had to engage a locum-tenent, as I was obliged to leave home for a complete rest. He was here from May 24th to July 5th. After he had gone I heard from my patients that he had informed them he was coming back to "start for himself," which he did after a fortnight's absence. Since his return he has promised me that he would go outside my district and not work against me, but I find his promises are not to be depended upon, as he is actually visiting patients at the lower rate within a few yards of my own house. This sort of thing should make men very careful as to locum-tenents before engaging them. I know this man cannot be punished by the law for starting against me, but I trust that the General Medical Council when they issue their ultimatum as regards medical aid societies will make such actions as that I mention "infamous in a professional respect."

I am, Sirs, yours faithfully,

R. E. INGRAM-JOHNSON, L.R.C.P. Edin., &c.

South Moor, Chester-le-Street, August 14th, 1899.

THE LYMPH OF THE NATIONAL VACCINE ESTABLISHMENT.

To the Editors of THE LANCET.

SIRS,—In view of the serious danger to the community resulting from the very unsatisfactory lymph we have lately been receiving from the National Vaccine Establishment I desire to know whether we public vaccinators would be acting illegally or imperilling our grants by vaccinating with humanised lymph those whose parents make no objection thereto? I am, Sirs, yours faithfully,

August 12th, 1899. P.V.

*** Section 3 of the third Schedule of the Vaccination Order dated Oct. 18th, 1898, states: "All public vaccinations are to be performed with glycerinated calf lymph or with other such lymph as may be issued by the Local Government Board." Public vaccinators can, however, procure their glycerinated calf lymph from any source they deem desirable provided always that a parent has a right to demand the performance of vaccination with lymph supplied by the Local Government Board. Clearly under the present state of the law no Government grants would be awarded to those who did not vaccinate with glycerinated calf lymph of one or another sort, or with lymph supplied by the Local Government Board.—ED. L.

"MEDICAL SICKNESS ASSURANCE."

To the Editors of THE LANCET.

SIRS,—In answer to the letter from "Quaerite et invenietis" in THE LANCET of August 12th, I believe that the Scottish Society which he wants is the Sickness, Accident, and Life Association, Limited. The head office is at 24, York-place, Edinburgh, and the London office is at 35, Moorgate-street, E.C.—I am, Sirs, yours faithfully,

C. HOWARD JACKMAN.

Stoke Newington-road, N. August 14th, 1899.

*** "Novus Homo" writes to the same effect.—ED. L.

"PHYSICIANS AND SURGEONS."

To the Editors of the THE LANCET.

SIRS,—In THE LANCET of August 5th a correspondent, "Not a Real Physician" (page 364), and another, "M.D., M.R.C.S., L.S.A." (page 394), reply to my letter of July 29th. My answer to "Not a Real Physician" is that he does not answer my statements at all. He makes no attempt whatever to show any valid reason why the titles of "Physician and Surgeon" should be conferred on those holding the L.S.A. qualification, and he displays himself in the character of "poor humanity become necessitous" by indulging in personalities, as, indeed, does also "M.D., &c." Your first correspondent must be aware that two wrongs do not make one right and even if only one M.D. who was not also a diplomate of a College of Physicians styled himself "Physician" he would still be usurping our title, and I repeat that University graduates and those holding the L.S.A. qualifications ought to be satisfied with their titles without endeavouring to appropriate those which legitimately belong to the diplomates of the Colleges of Physicians and Surgeons. Yes, I can state most satisfactorily that I have used the prefix "Dr.," and with perfect right and justice, as no doubt hundreds of gentlemen similarly qualified to me have done, and probably still do. It may interest your correspondent to know that a registrar of my college forwarded to me a printed official document in reply to my queries as to whether it was proper for me to use the prefix "Dr." This document states that although the legal decision of the Master of the Rolls Court does not permit us to use the letters M.D. after our names, yet this in no way interferes with our right (*sic*) to the prefix of "Dr." I have seen several such documents in the possession of others similarly qualified to myself. As a matter of fact, of late I have not used this prefix owing to the discussions and bickering which its use entails amongst some members of the profession and which feeling is due, at least I believe so, to the action of some physicians who are also M.D.'s (and possibly even office-bearers) who have some interest in the matter; and I can assure your correspondent that I do explain to my patients and friends the why and wherefore, and although I have given up the use of the prefix referred to I am well within my right in using it if I choose, having this document from my college as my guide. I have had to enter on this explanation at more length than I desired, but when a stab in the back is directed at one, naturally one parries it if quick enough and in such a manner as to disarm the aggressor.

Doubtless "Not a Real Physician" would like to hush up this discussion, which evidently seems not at all to his liking, but you, Sirs, who, from your sense of fairplay and love of justice, are ever ready to leave a space in your journal for discussions of medical matters, will, I feel satisfied, not allow this correspondence to close until the "Physicians and Surgeons" of the United Kingdom have expressed their opinion on a question which is of the most vital importance to them as members of the medical profession.

Replying to "M.D., &c." (page 394), I have to say that the opinion of the registrar was only "as far as he (the registrar) was aware" and does not seem to have been official, and this correspondent will find that the titles "Physician and Surgeon" are legally (and by a recent legal decision so declared to be) the right only of those who possess a diploma from a College of Physicians and Surgeons. The only logical outcome of the whole transaction is that if the L.S.A. qualification carries with it in future the titles of "Physician and Surgeon" then the sooner the Colleges of Physicians and Surgeons throughout the kingdom are abolished the better, and in that case I presume the L.S.A.'s would not object to us being forthwith made M.D.'s and M.Ch.'s, &c., free, gratis, and without examination, but what would the 'Varsity graduates do then?

There must be thousands of physicians and surgeons practising as such and the subtle attack on our rights by the clique referred to in my letter of July 29th, and which I honestly believe I have unmasked, ought not to be allowed by us to pass unnoticed, and I sincerely hope that not only will you, Sirs, keep your columns open for a continuance of this discussion but also that every "physician and surgeon" in the kingdom (practising as such) will take the matter up in all seriousness and vigorously oppose the insidious attempt which is being made by a few Licentiates in Medicine and Surgery of the Society of Apothecaries and others holding an M.D. degree to snatch from us our just rights and titles and transfer these to themselves for their own use and benefit and of course at our loss.

I am, Sirs, yours faithfully,

August 12th, 1899. A REAL PHYSICIAN AND SURGEON.

"THE REPAYMENT OF INCOME TAX."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 12th I notice a letter about the above. My own experience of claiming repayment through agents has been anything but satisfactory—more delay, more trouble, and less repayment than if I had sent in the claim myself. Your correspondent speaks of agency charges as moderate. This is of course a matter of opinion. As a matter of fact 20 per cent. of the amount refunded is the usual charge—i.e., it costs £1 to get back £4. I found out too late that to send in a claim direct and obtain repayment is a very simple matter. The surveyor for the district in which you reside will furnish forms and all necessary information. I should strongly advise all who are sending in claims for repayment to act for themselves and put the 20 per cent. in their own pockets. I am, Sirs, yours faithfully,

Wellington, Somerset, August 14th, 1899. E. A. OPIE, M.B. Durh.

DIFFICULTIES UNDER THE NOTIFICATION ACT.

To the Editors of THE LANCET.

SIRS,—I wish to draw your attention to the following facts and would ask your opinion on the action of the medical officer of health in question and would feel much obliged for any suggestions as to what course I might pursue. I have lately notified some cases of scarlet fever. I heard from one of my clients that the medical officer of health called and gave it as his opinion that the said client's child, whom I had notified as suffering from scarlet fever, had not such a disease, the said client informing me that the medical officer of health never came close to the child or examined her. On hearing this I wrote to the medical officer of health and asked him if such were the case and saying that I felt hurt. The medical officer of health did not reply. Having rendered an

account to the authority for notification of infectious diseases I am informed by the town clerk that my fees for such have been disallowed in part—namely, that they pay me for three out of a total of 10.

I am, Sirs, yours faithfully,

July 28th, 1899. W. H.

*** The facts as presented to us by our correspondent leave us no alternative but to condemn the action of the medical officer of health, more particularly so if, as is here alleged, he ventured to diagnose the case without properly examining the patient. Diagnosis of the ailments of other medical men's patients is no part of the official duty of a medical officer of health—unless, that is to say, in certain cases he has strong grounds for suspecting the *bond-fide* character of a notification certificate, and even under these circumstances he should endeavour to arrange for a consultation with the medical attendant. The fact, too, that the medical attendant's communication was unanswered by the medical officer of health still further accentuates the unusual attitude adopted by the latter. As regards the question of fees we fear the only course open to our correspondent is an appeal in the county court, but unless he possesses sufficient evidence to convince the judge we should not advise this always risky procedure. Still, if he could demonstrate that the children here in question desquamated in a typical fashion he would have a strong case.—ED. L.

"ACHONDROPLASIA."

To the Editors of THE LANCET.

SIRS,—I see on page 470 of THE LANCET of August 12th "Pathologist" asks for information as to the literature of achondroplasia. There is an article by myself in the *Bristol Medico-Chirurgical Journal* (March, 1899) and I have micro-photographs of radiograms which I would be pleased to lend to your correspondent if he would communicate with me and if he cared to have them. I am, Sirs, yours faithfully,

Freshford, near Bath, August 11th, 1899. CHARLES FLEMMING.

THE GENERAL MEDICAL COUNCIL AND UNQUALIFIED ASSISTANTS.

To the Editors of THE LANCET.

SIRS,—As I understand the General Medical Council judges each case on its merits, I should be glad if you would give me your opinion as to the probability of their censuring me under the following conditions. My unqualified assistant has worked with my predecessor and myself in this practice for over 20 years. Many years ago he went through the entire medical curriculum at a London hospital and has since then attended over 6000 cases of midwifery. Since the regulation respecting unqualified assistants was enforced he has merely attended, and still continues to attend, cases of midwifery in my practice. I invariably see each case within 12 hours after labour and I am sent for in cases of much difficulty. All the patients know that my assistant is unqualified and, except in the manner I have stated, he does not visit professionally. I am, Sirs, yours faithfully,

August 16th, 1899. G.P.

*** According to the strict letter of the notice of the General Medical Council passed on Nov. 23rd, 1897, we think that the Council would be against our correspondent.—ED. L.

"THE LAURIA FUND."

To the Editors of THE LANCET.

SIRS,—We beg to acknowledge the following further donations to the above fund.

We are, Sirs, yours faithfully,

E. B. HARTNELL,
1, Ryecroft-street, Fulham, S.W., } Hon.
JOHN H. BARRS, } Secs.
6, Wandsworth-bridge-road, S.W., }

August 15th, 1899.

	£	s.	d.		£	s.	d.
Mr. Walter Jessop	3	3	0	Mr. W. H. Coke...	2	2	0
Mr. S. W. Arundell	1	1	0	Mr. P. Phelps	0	10	6
Mr. W. Hayward	2	2	0				

"A MEDICAL OFFICER OF HEALTH ON THE DIAGNOSIS OF DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—Referring to a paragraph in THE LANCET of August 12th, p. 470, I would like to state that some time since I, as a medical officer of health, received from a brother practitioner a certificate to the effect that two children were suffering from diphtheria and, following my usual custom in such cases, I never thought of visiting the patients to verify the diagnosis. My surprise may be imagined when I saw four days after receiving the certificate both children on the public road at eight o'clock in the evening, watching the return of a picnic party. The disease must have been "very mild" indeed to have enabled the children to do this and the parents much to blame in allowing it. Of course, I might have reported the circumstance, but that would only have stirred up strife between my colleague, the parents, and myself, and at the same time served no useful purpose, as no harm came of the exposure. Was the diagnosis erroneous? I am inclined to think so—and I believe too little care is taken in the diagnosis, especially of diphtheria and enterica, before certifying, although I do not for one moment hint that this is done for the sake of a paltry half-crown.

I am, Sirs, yours faithfully,

August 15th, 1899. NEMO.

"A PUZZLE."

To the Editors of THE LANCET.

SIRS,—My dictionary tells me that a doctor is a "physician; one who is duly licensed and qualified to practise medicine; one whose profession is the treatment and cure of diseases." In common with some thousands of my professional brethren duly licensed and qualified to practise medicine I call myself "Dr." You, I presume, would restrict the title to possessors of the University degree of "M.D." Why, then, is the title generally accorded to holders of the "M.B." degree? The columns of the medical journals have for many years past discussed the practice of Licentiates of the Royal Colleges of Physicians to term themselves "Dr." and therefore there is nothing singular in the fact that I do so. I have to thank you for your courtesy in the matter of the consumption "cure." If Dr. Cunningham be "a quack," as you suggest, I should say his conduct is worthy of a good deal of "serious thought."—I am, Sirs, yours faithfully,

August 12th, 1899. EDW. BERDOE, M.R.C.S., L.R.C.P. (Edin.).

EXPERIMENTS ON ANIMALS.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if you could tell me whether there is anything illegal in making experiments on animals with regard to the effect on them of various preservatives mixed with their food.

I am, Sirs, yours faithfully,

August 16th, 1899. M.O.H.

*** A licence would, we fancy, have to be procured under the Vivisection Acts; at least such is the case when experiments are carried out by feeding guinea-pigs on tuberculous milk.—ED. L.

Scribe.—We cannot recommend our correspondent to include in his advertisement an offer to take accouchement patients. This practice is so apt to involve association—or temptation to such association—with discreditable cases that it ought not to be the subject of advertisement. There is no reason, we think, why a medical man with suitable accommodation for taking an invalid into his home should not make the fact known, though, of course, as quietly and privately as possible. Ordinary advertisement is to be avoided if possible. Where it is used it should be in such form as our correspondent suggests.

Dubious.—The resolution of the General Medical Council (see answer to *Wallsend Practitioners*) discouraged "systematic canvassing." Our correspondent says that he "allows no touting" and we quite believe him, but can he be sure of the company's agents? However, the General Medical Council would not, we think, consider that such a case as this came under its ban. There is nothing to prevent fresh members from joining if they feel so disposed.

Wallsend Practitioners.—On Tuesday, June 6th, 1899, the General Medical Council passed the following resolution: "That the Council strongly disapprove of medical practitioners associating themselves with medical aid associations by which systematic canvassing and advertising for the purpose of procuring patients are practised."

Exercise.—Reference may be made to "The Elements of Physical Education," by David Lennox, M.D. Edin., and Alexander Sturrock (Blackwood, 4*s.*)

M.A., M.B.—We are not aware of any such experiments having been undertaken, but we do not consider that our correspondent's theory is tenable.

B.A.—"Sanatoria for Consumptives," by F. Rufenacht Walters, M.D. Lond. (London, Swan Sonnenschein & Co.).

Mr. Charles Blair.—Comment is made upon the subject in an annotation in our columns this week.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received: *Redworth Observer, Abingdon Herald, Dartford Express, Falkirk Herald, Montrose Standard, Worcester Daily Times, Uxbridge Gazette, Vegetarian, Yarmouth Mercury, Worthing Gazette, Times of India, Pioneer Mail, Architect, Citizen, Scotsman, Builder, Brighton Gazette, Liverpool Daily Post, Bristol Mercury, Yorkshire Post, Sanitary Record, Health, Leeds Mercury, Manchester Guardian, Warwick Advertiser, Hampstead Express, East London Advertiser, Public Opinion, Birmingham Daily Post, Grimsby News, Hertfordshire Mercury, Chelsea Mail, Reading Mercury, East Anglian Daily Times, Mining Journal, City Press, Local Government Chronicle, Surrey Advertiser, Northern Ensign, Weekly Free Press and Aberdeen Herald, Local Government Journal, United Service Gazette, Westminster Gazette, New Era, Sydney Mail, Hereford Times, South Wales Weekly Argus, Hexham Courant, Liverpool Weekly Post, Stamford Guardian, Gloucester Standard, Goole Weekly Herald, Bournemouth Guardian, Diss Express, Horncastle News, Pudsey District Advertiser, Melbourne Age, &c.' &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, August 17th, 1899.

Date.	Barometer reduced to Sea Level and 32° F	Direction of Wind.	Rainfall	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb	Dry Bulb	Remarks at 8.30 A.M.
Aug. 11	30·27	E.	...	119	78	55	58	60	Cloudy
,, 12	30·25	S.E.	...	121	76	57	59	63	Cloudy
,, 13	30·29	E.	...	113	77	57	61	63	Bright
,, 14	30·15	S.E.	...	113	76	60	61	65	Overcast
,, 15	30·00	S.E.	...	120	91	62	65	69	Hazy
,, 16	30·10	N.E.	...	117	81	63	62	66	Cloudy
,, 17	30·06	N.W.	...	115	73	62	58	66	Cloudy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College, (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

TUESDAY (22nd).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. T. D. Savill: Cases of Syphilitic Affection of the Nervous System. (Vacation Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. Harry Campbell: Clinical Demonstration.

THURSDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Jonathan Hutchinson: Clinical Demonstration.

FRIDAY (25th).—WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street, W.).—4 P.M. Dr. Harry Campbell: Cases of Headache and Neuralgia. (Vacation Course.)

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. Ewart: Clinical Demonstration.

EDITORIAL NOTICES.

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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We cannot prescribe or recommend practitioners.

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Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1899, which was completed with the issue of June 24th, and the Title-page to the Volume, were given in THE LANCET of July 1st.

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VOLUMES for the first half of the year 1899 are now ready. Bound in cloth, gilt lettered, price 18*s.*, carriage extra.

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BEST FOOD FOR INFANTS.

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Ratio of Albuminoids to carbohydrates. The ratio of the albuminoids to the carbohydrates is the same as in human milk—viz., 1 to 6·4; the ratio in cow's milk being only 1 to 3·8.

Albuminoids easy of digestion, not predigested. The albuminoids are not predigested as in pancreatised foods, but are rendered easy of digestion, leaving (as in human milk) just sufficient work to strengthen and develop the immature digestive powers, instead of weakening and abrogating them by keeping them inactive. Sir WILLIAM ROBERTS' experiments in feeding kittens show that distinct failure of nutrition occurs when the milk is predigested (peptonised), and the same thing has been observed in feeding infants, probably owing, as THE LANCET points out, to atrophy of unemployed glands.

Healthy nature of evacuations. As a consequence of the foregoing the proper peristaltic action of the bowels is maintained, and the healthy nature of the evacuations of Infants fed on this food is a satisfactory feature much and favourably commented on by Mothers and Nurses.

The curdling Cow's milk prevented. When mixed with cow's milk it prevents the troublesome curdling in the stomach which takes place when cow's milk is given alone, and assimilates its composition to that of human milk.

Complete conversion of the starch. The active Malt Diastase present provides for the rapid and complete conversion of the starch at the time of mixing into the soluble assimilable products of maltose and dextrine. The point of the gelatinisation (thickening) of the Food—viz., 140° F.—is just that at which Malt Diastase is most active, and the conversion of the starch is consequently the work of a very few minutes only.

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Absence of Fermentable sugar. The absence of the fermentable sugar, which in the various malt extracts and milk foods so often gives rise to Diarrhœa and Flatulence.

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SAVORY & MOORE,
143 NEW BOND STREET. LONDON. W.

41

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Each small bottle guaranteed to contain 7½ grains of Potassium Bicarbonate.

"The addition of a definite amount of bicarbonate of potash to a natural mineral water affords an agreeable and effective way of exhibiting an alkaline draught. Johannis Potash Water possesses a taste distinctly superior to and more satisfactory than the ordinary potash water made with artificial gas. It is smooth and soft to the palate and affords an excellent beverage with milk or with lemon juice. Johannis Potash Water offers the advantage where alkaline treatment is indicated of presenting a constant amount of the potash salt, which as is well known is useful as a diuretic and in preserving the alkalinity of the blood."—THE LANCET, 22nd July, 1899.

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OF ALL CHEMISTS AND MINERAL WATER DEALERS.

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THE BARIUM NATURAL MINERAL WATERS OF LLANGAMMARCH.

Analyses by THE LANCET, Nov. 24th, 1894.

	No. 1.		No. 2
CHLORIDE OF BARIUM ...	6·749	.....	6·490
Chloride of sodium	186·200	.....	185·900
Chloride of calcium	85·160	.....	85·470
Chloride of magnesium	20·100	.....	20·315
Chloride of lithium	0·847	.....	0·910
Chloride of ammonium	0·262	.....	0·262
Alumina and silica	3·340	.....	3·100
Bromine	Distinct traces	.....	Distinct traces
Total mineral matters in grains per gallon ...	302·658	.....	302·447

"Constant in composition .....Safe.....Organically pure."—THE LANCET.

Analysis by Dr. DUPRÉ, August, 1883.

CHLORIDE OF BARIUM	6·26
Chloride of Sodium	189·56
Chloride of Calcium	84·66
Chloride of Magnesium	24·31
Carbonate of Calcium	2·80
Silica	1·40
...	308·89 grains per gallon.

"Barium, a rare constituent of mineral waters."
—Dr. DUPRÉ.

LLANGAMMARCH BARIUM WATERS in HEART DISEASE.
(See THE LANCET, Nov. 24th, Dec. 1st, 1894, Jan. 4th, 1896.)

LLANGAMMARCH BARIUM WATERS in GLANDULAR ENLARGEMENT.
(A London Physician.)

LLANGAMMARCH BARIUM WATERS in KIDNEY COMPLAINTS, GOUT, RHEUMATISM.
(See Clinical Note in THE LANCET, March 25th, 1899.)

LLANGAMMARCH BARIUM WATERS as a POWERFUL DIURETIC & URIC ACID SOLVENT.
(Vide same Clinical Note).

LLANGAMMARCH BARIUM WATERS ... ELIMINATE URIC ACID FROM THE SYSTEM.

THE PUMP HOUSE, LAKE HOTEL, & BATHS,

LLANGAMMARCH WELLS, CENTRAL WALES.

Telegraphic Address—"BARIUM, LLANGAMMARCH WELLS."] [For Terms apply to MANAGERESS.

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Hunyadi János

A VERY INTERESTING and important contribution on Natural Mineral Waters of the purgative saline type was published in the report of a Special Analytical Commission in THE LANCET of December 5th, 1896. This report is made all the more interesting and reliable from the fact that a LANCET Commissioner personally visited the Saxlehner Springs, near Buda Pesth, and obtained samples on the spot, which were subsequently analysed in THE LANCET Laboratory, and the results obtained compared with samples purchased at a number of shops in London. The results showed that **HUNYADI JÁNOS, the Prototype of all Bitter Waters,** was, wherever it might be obtained, a water showing a **perfect uniformity of composition,** and one that could be **relied upon absolutely** as at **all times being identical** with that drawn from the Spring and fountain head. The numerous analyses in THE LANCET Report give very striking evidence not only of the **honesty of the water,** but bear out also the **remarkable uniformity of composition** that has characterised **HUNYADI JÁNOS** for a **third of a century.** Thus, the results recently obtained in THE LANCET Laboratory accord exactly with those obtained in Liebig's Laboratory over thirty years ago. **Nothing could be more satisfactory than this from the therapeutic point of view. Practitioners can thus depend** upon the water they prescribe, and may be assured that when **HUNYADI JÁNOS** is administered the **medicinal effects will always be the same,** and **with the same good results.** As is pointed out in the Report, an important feature in **HUNYADI JÁNOS** Water is the constancy of ratio of the active saline constituents to each other. The sodium and magnesium sulphates are together in almost exactly equal proportions, so **that what therapeutic property is lacking in the one is balanced by the other.** Neither the sodium sulphate nor the magnesium salt are in excess of each other. **In this way the purgative effect is not drastic,** but **mildly yet decidedly effective.** Again, besides these chief medicinal salts there are present in important quantity also in **HUNYADI JÁNOS** Water, Sodium Chloride, **Sodium Carbonate,** and **Lithium Chloride.** It cannot be doubted that each of these constituents contributes towards the **favourable action of the water,** which has for so long been a **distinctive and satisfactory feature attending its administration.** Last, but by no means least, the report of THE LANCET Commission shows that **HUNYADI JÁNOS** Water is bottled under **admirable sanitary precautions.** In the details of the analyses given there was not the slightest indication that **HUNYADI JÁNOS** Water contained any objectionable organic matter from whatever source. While therefore the medicinal properties of **HUNYADI JÁNOS** as a natural aperient are **sure and reliable,** it is **safe** also from the very important fact of its **extreme organic purity.**

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